



# **BLACK RIVER STATE FOREST**

**ENVIRONMENTAL ANALYSIS,  
ANALYSIS OF MANAGEMENT ALTERNATIVES,  
AND PUBLIC INVOLVEMENT PROCESS**

State Forest Project Boundary

**MAY 2009**



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## **ENVIRONMENTAL ANALYSIS, ANALYSIS OF MANAGEMENT ALTERNATIVES, AND PUBLIC INVOLVEMENT PROCESS**

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## ACKNOWLEDGEMENTS

This plan has been developed through a team effort by many individuals from the Department of Natural Resources. Through their hard work and expertise, these people have developed a plan that will guide the Black River State Forest into the future.

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## INTRODUCTION AND PLAN OVERVIEW

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The Black River State Forest protects a wide variety of forest resources and important habitat areas. Forest management areas provide a large land base for sustainable timber production, while several native community management areas and State Natural Areas on the site protect important ecological communities and species.

Forest communities on the Black River State Forest are diverse and include common Wisconsin oak and pine communities, as well as a number of rare and unique forest communities such as white pine-red maple swamps, pine and oak barrens, central poor fen, tamarack-black spruce swamp, and moist cliff. The property provides raw materials for Wisconsin's forestry industry, offers a model for sustainable forest management, and protects unique ecological communities and habitat for wildlife.

All management on the Black River State Forest is implemented using principles of sustainable forestry. On average, the Black River State Forest harvests over 15,000 cord equivalents annually in timber sales ranging in size from 700 to 1,600 acres. Forest management on the state forest is intended to provide economic, ecological, and social benefits to present and future generations.

Ecologically, the Black River State Forest supports a wide range of plant and animal species, some of which are rare, endangered, or threatened. As of 2006, the Natural Heritage Inventory documented 48 rare plant species and 119 rare animal species within a study area that encompasses the Black River State Forest and the surrounding Meadow Valley landscape. Of the 119 rare animal species, at least 25% of their known statewide occurrence is within this study area.

The Black River corridor, its tributaries, and an extensive dike and dam network on the property support a diverse range of common and rare species, and offer recreational opportunities.

Recreation on the property is diverse and supports a wide range of uses. The Black River, East Fork of the Black River, and various flowages on the property offer opportunities for fishing and canoeing. Recreational trails provide space for ATV riding, snowmobiling, bicycling, cross-country skiing, hiking, and horseback riding. Motorized trails on the property connect to a large system of regional trails, providing visitors with numerous

recreational opportunities. Over 100 campsites on the property welcome visitors. Hunting is one of the most popular activities on the state forest, with seasons open for whitetail deer, turkey, grouse, bear and small game. The Black River State Forest and the Jackson County Forest are two of the largest tracts of open hunting land in the southern half of the state and attract a large number of hunters annually.

### PURPOSE OF THE MASTER PLAN

The Black River State Forest Master Plan spells out how the property will be managed, used and developed, and the benefits it will provide. It defines the forest management practices, recreational uses, other land management activities, and additional aspects of the property's future use and development.

#### *The Black River State Forest Master Plan:*

- Provides a vision and framework for the use, development, management and acquisition of the forest well into the future with an emphasis on the next 15 years.
- Identifies land management areas and plans for their future management.
- Describes general and specific management objectives and prescriptions for each management area.
- Makes recommendations for forest production, recreation, and habitat conservation to meet current and future needs.
- Provides for continuing public involvement during plan implementation.



### OVERVIEW OF THE PLANNING PROCESS

There are several major phases in the master planning process as well as opportunity for public input and participation. These phases include completing the Regional and Property Analysis, establishing the property vision and goals, considering management alternatives, and finally creating a plan and an environmental analysis.

The Department of Natural Resources worked actively with local towns, tribes, non-governmental organizations, citizens, and businesses to create the Black River State Forest Master Plan. The planning process is guided by State Statute 28.04 and Wisconsin Administrative code NR 44.

The development of the Black River State Forest Master Plan has also been guided by a commitment to sustainable forestry. Forest practices have addressed aspects of sustainability for decades, but “sustainable forestry” is a relatively new concept. While individual definitions may vary slightly, there is general agreement that sustainable forestry focuses on meeting the environmental, economic, recreational and social needs of current generations while protecting the forest’s ability to fill the same role for future generations. Additionally, the previous property plan and extensive ecological, economic, and social assessments provided a data foundation for the development of this plan.

Public involvement has been an integral part of the planning process, beginning with public open house meetings and surveys to identify important planning issues and views on the forest’s future direction. That involvement continued through the other steps in the process, developing a vision statement and property goals, evaluating management alternatives, and developing the Preferred Alternative and Options. This planning process culminates with the public review of the draft Master Plan and Environmental Analysis followed by plan review and approval by the Natural Resources Board.

### CONTENT AND ORGANIZATION

This document is presented in three chapters:

**Chapter One**      Analysis of impacts of the plan.

**Chapter Two**      Overview of alternatives considered.

**Chapter Three**    Public involvement plan for the master plan.

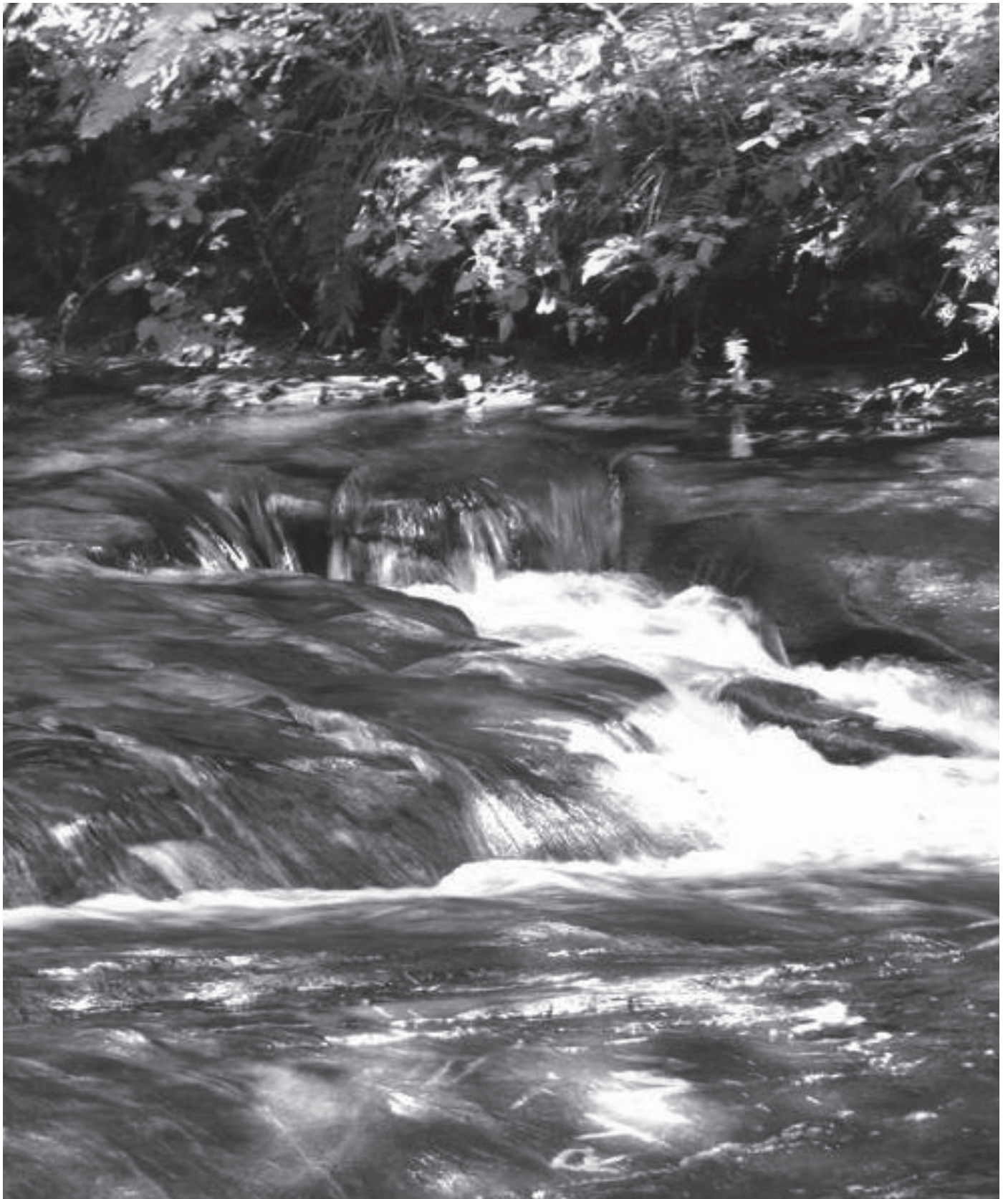
### OVERVIEW OF THE ENVIRONMENTAL ANALYSIS

The Environmental Analysis (EA) assesses the potential impacts of actions recommended in the Black River State Forest Master Plan, ranging from land acquisition and facility development to forest management and operation. As required under section NR 150.22(2), Wisconsin Administrative Code, this analysis also includes an examination of the management alternatives considered and the public review process used during the development of the master plan. The EA for this plan concludes that the implementation of the master plan provides positive recreational, ecological, social, and economic benefits to the region with minimal adverse impacts. Please refer to the Black River State Forest Master Plan for a description of the proposed action and of the affected environment.

### OVERVIEW OF THE PUBLIC INVOLVEMENT PROCESS

Public involvement has been crucial to the development of this plan. A variety of tools were used to give information on the planning process and solicit public input, including news releases, mailings, surveys, annual reports, and a website. In addition, public open house meetings were held at various stages throughout the planning process. Public comment showed support for the recreational opportunities provided by the forest including camping, various trail opportunities, and hunting. Generally public comments supported state purchase of lands around the Black River State Forest, a move that would keep more of the area in the public domain open to a variety of recreation uses and protected from increasing development pressure. Motorized recreation issues received the most comments.







# ANALYSIS OF IMPACTS OF THE PROPOSED MASTER PLAN

## PURPOSE AND NEED FOR THE PROPOSED ACTION

This chapter, in combination with Chapters Two and Three, collectively constitute the Environmental Analysis (EA) for the Black River State Forest Master Plan. The purpose of this chapter is to explain the potential environmental effects of the Black River State Forest Master Plan. An analysis of the environmental effects or impacts is an important element of the Environmental Analysis. The intent of the EA is to disclose the environmental effects of an action (the master plan) to decision-makers and the public. The Black River State Forest Master Plan describes the proposed action or preferred management alternative. Chapter Two describes and evaluates the various alternatives that were considered, but not selected, while the preferred alternative was being developed. Elements of several alternatives were incorporated into the final preferred alternative. The EA has been prepared to meet the requirements of the Wisconsin Environmental Policy Act (WEPA) and Chapter NR 150 of Wisconsin Administrative Code.

A detailed description of the elements of the proposed action is contained in the Black River State Forest Master Plan. A listing of anticipated impacts from both proposed land management and proposed facility development activities follows, indexed by affected resources.

## STATE OR FEDERAL APPROVALS REQUIRED

Construction activities on the motorized recreational trail network will be completed after federal permits are approved and wetland protection requirements are met. Cooperation with the United States Army Corps of Engineers and DNR Water Division will be required to obtain permit and mitigation approvals.

## IMPACTS TO NATURAL RESOURCES

### Soil Impacts from Forest and Recreation Management

The soils in the Black River area are generally acidic, infertile, and prone to drought; the sands of this area are among the most sterile in the state. Extensive areas of organic soils (peats and mucks) are associated with the area's abundant wetlands. Restrictive soil features for recreation development are ranked as "severe" (on a scale of slight, moderate, or severe) for all three major soil types on the forest due to the sandy and acidic

nature of the soils. Because new developments on the Black River State Forest will be minimal, soil impacts from forest and recreation management are also expected to be minimal.

### Forest Management

The proposed forest management activities would not generate significant long-term, cumulative impacts to the soils on the Black River State Forest due to the relatively low percentage of forest lands that are disturbed by management activities at any given time. However, erosion control practices are incorporated into timber sale contracts.

Overall, the largest cause of soil erosion and water pollution from forest management activities is poorly located and constructed forest roads. Most roads used for forest management on the BRSF are existing roads and maintenance of those roads would be required; construction of new forest roads is not planned at this time. If any new forest roads are needed and constructed, impacts would be minimal due to the required use of Best Management Practices (BMPs) for water quality. BMPs also provide guidance for water crossings, skid trails, and log landings.

### Recreation Management

No new trail developments are proposed under the current plan. Most of the proposed changes to the motorized trail system would result in positive benefits to soil. Currently, wetland impacts, erosion, and soil displacement are issues on the motorized trail system. Resurfacing of motorized trails would create trail surfaces designed to minimize erosion through crowning, adding surface material where needed, and installing culverts where necessary to reduce soil impacts. A planned re-route of the motorized trail south of Stanton Creek Road is intended to reduce erosion and other impacts by avoiding steep slopes and erodible soils. Closures on some segments of the Wildcat Trail would benefit soil by reducing the wetland interface by .77 miles. Trails closed to motorized recreational use would remain open for state forest operations, primarily during frozen ground conditions.

No significant new recreational facility developments are proposed.

### Soil Impacts from Construction

Some soil loss would likely occur when facility developments occur; however, planned developments are small and few in number. Planned developments include a new shop and office building, new shower facility, and other updates such as increasing spur lengths at campsites. Any soil loss will be minimized through the use of required erosion controls. Further, these structures will primarily replace existing structures, causing impacts to be minimal due to the existing footprint. Any soil impacts from construction that would occur would likely be small, of short duration, and localized.

### Impacts on Geological Resources and Landforms

There is one new well planned for the Black River State Forest at the Smrekar warming house (associated with the cross-country ski trail system). The well will penetrate the underlying granite bedrock in some places, and/or tap aquifers; however, the well will be drilled and installed according to state well drilling codes, effectively minimizing any risk to the resource. Some rock excavation may be necessary for development of parking lots, and facility foundations. Surface mining of rock is not anticipated.

### Impacts to Air Quality

During construction activities, dust may be present in the air surrounding project areas. Application of water from tank trucks is a common dust suppression practice that is used during road construction. This technique may be appropriate for some projects within the forest. Impacts on air quality from fugitive dust particles and engine exhaust emissions from construction equipment would be finite and transitory in nature. When construction is complete no residual impacts to air quality would be detectable.

Vehicle emissions generated as a result of logging activities are likewise, expected to be low. Further, much of the logging used to implement forest management goals will occur during off-peak recreational seasons (winter).

Impacts to air quality from motor vehicles attracted to the forest by additional electric camping sites, and improved recreational facilities are expected to be minimal. Motorized use on the property does produce some adverse air quality impacts; however, it is not expected to increase significantly thus there would be no new air quality impacts. The current indirect source air permit thresholds pertain to sources with 1,500 or more parking spaces, or highway projects with peak vehicle traffic volume greater than 1,800 vehicles per hour. The traffic due to projected management and development in this plan is well below these levels.

Prescribed burns will have temporary air quality impacts. The unavoidable risk of wildfire and associated air impacts will be offset by current wildfire suppression policies.

### Impacts on Water Resources

The proposed forest management activities would not have a significant adverse affect on lakes and streams or associated aquatic habitats. There are very few natural lakes on the Black River State Forest. Management activities such as road building and scarification of planting sites may result in localized, limited, short-term impacts to water quality due to increased runoff during unusual storm events. However, because of the use of the extensive water quality protection measures required for all forest management activities under the BMPs for water quality and because of the BRSF's highly sandy soils, the potential for a significant impact on waters surrounding the property is small.

### Impacts on Wetlands

The Black River State Forest contains an extensive network of forested and non-forested wetlands. These areas support important rare, endangered, and threatened plant and animal species, and provide habitat for a wide range of waterfowl species.

Forested wetlands with productive stands capable of producing merchantable timber may be harvested within their accepted rotation age following the guidelines outlined in the DNR Silviculture and Forest Aesthetics Handbook. Timber harvests will only be conducted during very dry or frozen ground conditions, using techniques and equipment that prevent rutting. Following these guidelines will prevent any significant impact on water quality around wetlands where harvesting is taking place.

Non-forested wetlands will primarily be managed using passive management techniques, along with control of exotic and invasive species. This management would have little adverse impact, and a large positive impact on decreasing the level of exotic and invasive species on the property. In a small number of cases, non-forested wetlands may be crossed during frozen ground conditions by timber harvesting equipment. In these cases, there may be minor, localized impacts to wetland vegetation. Any such forest management would not have a significant impact on wetlands, due to safeguards built in to the BMP requirements that are followed when conducting timber harvests near wetlands.

Dike 17, a non-forested wetland, and the largest wetland area on the property, will continue to be managed using active management techniques including timber harvest and prescribed burning. Harvest activities will be limited to frozen ground conditions to limit the extent of water quality impacts.

## ANALYSIS OF IMPACTS OF THE PROPOSED MASTER PLAN

Management of this area will maintain the open landscape necessary for the wide range of threatened, endangered, and wildlife species currently found in the area. Management of this parcel is expected to have minimal water quality impacts, and is expected to have a positive impact on available wildlife habitat.

An additional positive impact to wetlands will occur as a result of closures and upgrades on the motorized trail system. Closures on the Wildcat Trail will remove 0.77 miles of wetland interface on the property. Wetland crossings that will remain on the motorized trail system, will be upgraded using appropriate engineering to allow for proper water flow and drainage, minimizing future impacts to the wetlands.

Commercial mossing will continue to be allowed in areas which have traditionally been used for this activity. No significant impacts are expected because commercial mossing will be prohibited in the Peatlands Native Community Management Area in order to protect the sensitive site habitat and hydrology.

Overall, forest and habitat management on the Black River State Forest would have the effect of providing long-term aesthetic and biological protection of wetlands on the property. Wherever forest management activities or construction activities would potentially affect wetlands, BMPs would be implemented to protect wetland resources. Boundary expansions, if implemented would protect additional wetland areas, including headwater areas of the Black River.

### ***Impacts on Rivers and Flowages***

The Black River State Forest contains several important streams, rivers, and flowages, including the Black River, the East Fork of the Black River and the associated watersheds of Morrison Creek and Halls Creek. These areas all support a high diversity of threatened, endangered, and Species of Special Concern. Management activities in these areas are generally intended to let natural processes dominate. Management would have the positive effect of protecting the scenic and aesthetic qualities of the Black River and its major tributaries, and protecting, managing, and enhancing natural communities for ecological values and rare species habitat needs. Management would also protect unimpounded stretches of headwater streams originating in the peatlands.

### ***Impacts on Springs and Seeps***

Land management activities conducted on the Black River State Forest would have the effect of protecting water quality and biological diversity on and around the property. Management activities would protect and maintain riparian habitats, springs, and seeps. Land management classifications have

been chosen for these areas that would have the effect of preventing degradation of these resources by development or conflicting use. Wherever management activities occur, BMPs would be implemented to protect the water resource.

### ***Impacts on Surface Water Resources***

Runoff from roadways and other impervious surfaces would be directed away from nearby streams and lakes, thus minimizing any risks of water pollution from spilled materials or sediment from runoff and erosion.

The impacts of stormwater runoff during timber harvesting would be mitigated by implementing BMPs for water quality. These practices are described in the Timber Sale Handbook and are a part of every timber sale contract on the forest.

Land acquired within the proposed boundary expansion and managed under the state forest master plan would protect important headwater streams of the Black River, which will have a long-term beneficial effect on the surface water resources of the site and those receiving waters downstream.

### ***Impacts on Man-Made Impoundments and Flowages***

The property contains 20 man-made impoundments and flowages. Maintenance, repair, and/or removal of dikes and dams will be evaluated and conducted on a case-by-case basis based on cost-effectiveness, property needs, anticipated benefits, and benefits to water quality and wildlife. These activities will be conducted according to established BMPs to minimize any potential environmental impacts.

### ***Impacts to Upland Vegetation and Habitats***

The forests of the Black River State Forest are a complex mosaic of many forest community types, age classes, and structures due to varied soil, topography, and previous use and management.

Each forest stand is classified and labeled according to its dominant cover type. Most stands, however, are a mixture of various tree species, but the overall composition of various stands having the same cover type label may greatly differ.

Currently, pine species dominate the Black River State Forest. This includes white, jack, and red pine. Oak and aspen are also important forest types present. Other species include those adapted to the lowland and swamp conditions on much of the forest, such as swamp/bottomland hardwoods, tamarack and black spruce. As the proposed master plan is implemented, aspen is predicted to stay relatively stable, jack pine is expected to decrease slightly, and a small decline in oak is predicted. Red maple and white pine are expected to increase considerably (Table 1.1).

## ANALYSIS OF IMPACTS OF THE PROPOSED MASTER PLAN

In the forest production areas, management objectives would impact forest composition by maintaining a strong component of aspen in some areas, promoting longer-lived species such as oak and pine in other areas, and promoting conversion to native cover types such as white pine-red maple mixes where appropriate. These changes would impact the relative abundance of cover types, but not species composition.

Within the two habitat management areas, current forest composition and age structure would not change dramatically. In the Jack Pine Habitat Management Area, jack pine barrens habitat and associated rare species will be maintained and increased. Within the Dike 17 Habitat Management Area, the open landscape would be maintained through timber harvest and prescribed burning.

Native community management areas have the greatest potential for change in forest composition and age structure. One of the primary objectives for these areas is to maintain and develop older, more diverse, closed canopy forests. This includes promoting later successional species and encouraging characteristics of old growth forests. Over time, these areas would develop more closed canopies, longer-lived tree species, and more coarse woody debris. Composition and structure of red pine plantations may also change in some native community management areas where they would be managed to create a more natural appearance, impacting both composition and age structure.

### Impacts to Wildlife and Aquatic Life

The forest's future composition, discussed above, has a direct relationship on wildlife because the habitat determines which species will thrive and which will not. Overall, the proposed plan would maintain existing habitats while increasing under-represented habitats, primarily older forest and old growth forest habitats.

Habitat for deer, Ruffed Grouse and other wildlife species that favor aspen and oak would remain abundant on the Black River State Forest because these forest types remain strong cover types on the forest. However, oak habitat would slightly decline over the next 50 years as the forest continues its shift toward increased levels of red maple and white pine.

Forest game species, which are primarily "forest edge" species, would benefit from openings in more heavily forested areas. A common management tool to benefit forest game species is to use scattered clearcuts of varying size and shape to harvest timber. Although primarily done to regenerate trees, the clearcuts create temporary openings and forest edge. Under the plan, permanent openings would increase slightly primarily in the Dike 17 Wildlife Management Area and the Jack Pine Habitat Management Area.

While no species on the BRSF are old growth obligates, several species find old-forest and old growth conditions favorable and would benefit from mature pine, maple, and oak forests. Bird species that rely on old forests, (of which some are rare) including the Cerulean and Kentucky Warbler, Acadian Flycatcher, and the Red-shouldered Hawk, would have a stable and slowly increasing habitat over the long-term. Additionally, salamanders may benefit from decaying logs associated with old forests.

As the land management plan would continue to protect the quality of the BRSF's waters and riparian habitats, the wildlife species that rely on impoundments, streams, and wetlands (such as eagles, loons, fish, aquatic invertebrates, ducks, and aquatic/wetland plants) would benefit positively.

**TABLE 1.1 PROJECTED CHANGE IN COVER TYPE IN 50 YEARS**

Cover Type	Current Acreage	Predicted 50 Year	Change In Acreage
<b>Forested Types</b>			
White Pine	14,460	15,297	837
Jack Pine	13,781	13,451	-330
Oak	10,350	9,283	-1,067
Red Pine	6,665	6,441	-224
Aspen	5,402	5,429	27
Red Maple	1,916	2,525	609
Bottomland Hardwoods	1,177	1,177	0
Scrub Oak	1,073	926	-147
Tamarack	745	804	59
Black Spruce	245	248	3
Swamp Hardwoods	75	75	0
<b>Sub-Total</b>	<b>55,889</b>	<b>55,656</b>	<b>-233</b>
<b>Non-forested Types</b>			
Marsh	7,197	7,196	-1
Other	1,785	1,637	-148
Brush	1,609	1,713	104
Minor Lake/Stream	936	936	0
Lowland Brush	436	443	7
Farmland	128	0	-128
Grassland	59	458	399
Developed	43	43	0
Nature Trail Area	0	0	0
<b>Sub-Total</b>	<b>12,193</b>	<b>12,426</b>	<b>233</b>
<b>TOTAL</b>	<b>68,082</b>	<b>68,082</b>	<b>0</b>

## ANALYSIS OF IMPACTS OF THE PROPOSED MASTER PLAN

The plan's recreation management proposals would not cause a significant impact to wildlife or habitat because of the relatively small area affected by campgrounds and trail maintenance. Upgrades and re-routes on the motorized trail system may have a slight impact on wildlife; however, because of the existing footprint, those impacts should be insignificant. More importantly, trail closures should positively impact wildlife by removing recreational motorized use from portions of the forest.

The wildlife management program on the Black River State Forest focuses on maintaining and enhancing habitat and assessing the population status of important game, non-game, and listed species. The abundant wildlife on the state forest requires diverse forest habitats in various successional stages from young to old growth. Diverse and healthy wildlife populations will be maintained by managing the composition and structure of forest habitats integrated with the management objectives and activities outlined for each land management area in the Land Management Section of the Master Plan.

#### Impacts to Endangered, Threatened, and Rare Species, Native Communities, and Scarce Ecological Resources

Within the Black River State Forest and surrounding Meadow Valley landscape, the following species were identified through inventories conducted by the Endangered Resources Program:

- 27 state endangered or threatened animals
- 119 rare animal species
- 3 state endangered plant species
- 5 state threatened plant species
- 47 state rare plants
- 5 federally endangered or threatened animals

The inventory indicated a diverse mix of conifer and hardwood forests which provide habitat for one of North America's richest diversity of breeding songbirds. Birds associated with sand habitats are also well represented on the property, and may include the Kirtland's Warbler. This species has not been documented breeding on the Black River State Forest, but there are records of singing males here and in the surrounding landscape. In addition, there are recent breeding records for Kirtland's Warbler in other portions of the Central Sands with habitats similar to some areas on the BRSF. Wetland species are also abundant on the property, and are supported by the large network of wetlands and flowages in Dike 17 and flowages of the Black River.

All management prescriptions in the master plan consider the needs of endangered, threatened, and rare species and the potential impacts to the species and their habitat. Management actions being planned on the state forest are checked

**TABLE 1.2 COVER TYPES PROPOSED TO BE MANAGED ON THE BRSF AND SPECIES THAT WILL BENEFIT**

Cover Type	Species which will benefit from cover type being managed
Jack Pine	<b>Invertebrates</b> Karner Blue Butterfly (federally endangered) Frosted Elfin (threatened) Henry's Elfin (special concern) Phlox Moth (endangered) Gorgone Checker Spot (special concern) Mottled Dusky Wing (special concern) Persius Dusky Wing (special concern) Leonard's Skipper (special concern) Cobweb Skipper (special concern) <b>Birds</b> Kirtland's Warbler (federally endangered) Sharp-tailed Grouse (special concern) Whip-poor-will (special concern) Brown Thrasher (special concern) Vesper's Sparrow (special concern) Field Sparrow (special concern) Lark Sparrow (special concern) <b>Herpetiles</b> Yellow-bellied Racer (special concern) Bullsnake (special concern) Blanding's Turtle (threatened) Wood Turtle (threatened) Western Slender Glass Lizard (endangered) Massasauga Rattlesnake (endangered)
Aspen	<b>Birds</b> Golden-winged Warbler
White Pine	<b>Birds</b> Red-shouldered Hawk (threatened) Canada Warbler (special concern) Osprey (threatened) Bald Eagle
Scrub Oak	<b>Invertebrates</b> Karner Blue Butterfly (federally endangered) Frosted Elfin (threatened) Henry's Elfin (special concern) Phlox Moth (endangered) Gorgone Checker Spot (special concern) Mottled Dusky Wing (special concern) Persius Dusky Wing (special concern) Leonard's Skipper (special concern) Cobweb Skipper (special concern) <b>Birds</b> Sharp-tailed Grouse (special concern) Whip-poor-will (special concern) Brown Thrasher (special concern) Vesper's Sparrow (special concern) Field Sparrow (special concern) Lark Sparrow (special concern) <b>Herpetiles</b> Yellow-bellied Racer (special concern) Bullsnake (special concern) Blanding's Turtle (threatened) Wood Turtle (threatened) Western Slender Glass Lizard (endangered) Massasauga Rattlesnake (endangered)
Grass and Brush	<b>Invertebrates</b> Karner Blue Butterfly (federally endangered) <b>Birds</b> Sharp-tailed Grouse (special concern) Golden-winged Warbler Lark Sparrow (special concern) Vesper's Sparrow (special concern) Field Sparrow (special concern) Brown Thrasher (special concern) Whip-poor-will (special concern) <b>Herpetiles</b> Wood Turtle (threatened) Blanding's Turtle (threatened) Western Slender Glass Lizard (endangered) Massasauga Rattlesnake (endangered)

against an up-to-date database of listed species to assure that no department actions result in the direct taking of any known endangered or threatened resource. Please refer to Appendix B for a complete listing of the endangered, threatened, and Species of Special Concern.

All known critical habitat for these species will be protected or maintained through management. Examples of critical habitat includes sites used for breeding and foraging such as bald eagle, osprey, and great blue heron nest sites, wood turtle nest sites, Kirtland's Warbler nesting sites, lupine stands (Karner blue butterfly), wolf den and rendezvous sites, northern goshawk nest territories, and trumpeter swan and common loon nest sites. The Natural Heritage Inventory (NHI) will be checked prior to all timber sales, ground breaking projects, and recreational and trail developments to ensure that no critical habitat is disturbed.

With these preventative management actions, it is expected that there would be no significant negative impacts to endangered, threatened and rare species. Implementation of the proposed master plan would ensure continued safeguarding of these species and over time, perhaps increase their foothold in the forest environment.

## IMPACTS TO RECREATIONAL FACILITIES, ACTIVITIES, AND OPPORTUNITIES

### Forest Management Impacts

General forest management activities would have little negative impact on developed recreational facilities and recreational activities, including boating, swimming, and camping. On average, three percent or less of the forest would see any forest management activities during any year. Only a portion of the forest management would be timber harvests. All forest management near developed recreational trails, campgrounds, lakes, and other facilities are routinely adjusted to retain the aesthetic quality of these sites and to avoid conflicts with primary recreational uses whenever possible. Periodic thinning of timber in intensive use areas would provide positive benefits by maintaining the vigor and health of trees, reducing hazardous conditions, promoting larger trees, and creating open canopy conditions which allow a well developed shrub layer for screening between campsites.

### Scenic Resources and Changes to the Property's Overall Visual Character

New structures and facilities, particularly in the Castle Mound campground, would be evident locally. Most new structures, including flush toilets, shower and storage facilities, and an office building are being constructed to replace existing structures. A new shop will be constructed to replace the existing structure, which, although less apparent to visitors, would be

a positive visual improvement. The current office building will potentially be converted into an ADA (Americans with Disabilities Act) accessible cabin and moved to the campground area. The visual character of the property would therefore change very little, or may potentially improve, as a result of new structures. Forest road signs, directional signs, and a major property identification sign would be the primary indicators of change. Most other forest features would be similar to the existing visual characteristics of the region. All recreational structures will be sited and constructed to blend with the surrounding environment.

Updates to the motorized trail system, including crowning, installing culverts, and adding fill material will affect the visual character of existing trails. Another goal of upgrading the trails will be to reduce the width of the trail in areas where it has been expanded from use, and to keep riders on the trail by installing guardrails or placing downed trees or rocks in selected areas. Vegetation will be restored and brought closer to the trails in areas where it has been removed or destroyed from use. Over time, trails would appear narrower with vegetation on either side creating a more natural look. Trail resurfacing would have the positive effect of reducing erosion on trail surfaces and the visual impact of eroding trails. It would also provide a more positive image of motorized recreation to non-motorized users of the forest.

Change to the visual qualities of the forest management areas would be noticeable over time as areas of the forest are managed for certain objectives. Visual and audible affects would also be a by-product of the active management of forest vegetation.

State-owned shorelines on lakes and streams are designated a Class A Scenic Management Zone. All management activities along state-owned lake and stream shorelines will follow guidelines of the DNR Silviculture and Forest Aesthetics Handbook and BMPs for water quality.

### Hunting, Trapping, and Wildlife Viewing

The Black River State Forest will continue to offer abundant opportunities for small and big game hunting and trapping. The diverse landscape of different forest types, lakes, and wetlands found on the property will continue to provide important habitat for many game species including deer, Wild Turkey, Ruffed Grouse, and waterfowl species. An extensive system of logging roads will continue to be open for hunting access by foot or motor vehicle. Some sections of the road system may be closed in the future; however, no specific closures are planned at this time. Non-motorized areas for remote hunting and wildlife viewing experiences will remain approximately at

## ANALYSIS OF IMPACTS OF THE PROPOSED MASTER PLAN

current levels; though closures on the Wildcat ATV Trail may increase these opportunities.

### Camping and Day Use Facilities

Upgrades to the Castle Mound campground include increasing the number of available electric sites from six sites up to 28 sites, and increasing the length of camping pads (spurs) at select campsites to accommodate larger vehicles and recreational vehicles (RVs). These changes would accommodate campers on the property looking for a less remote, more developed camping experience. Facility improvements include potentially relocating the trailer dump station, replacing vault toilets with flush toilets, developing a new shower facility, new office building, and new shop and maintenance building to replace existing structures, and potentially converting the current office building into an ADA accessible cabin for the campground. These improvements would enhance the quality of experience offered to campground visitors.

Updates to other campgrounds on the property will include minor facility updates (installing informational signage, installing a manure storage facility on the equestrian campground, etc.). These updates will involve minor construction, retain the more rustic nature of the campgrounds, and would pose no significant environmental impacts.

All day use areas on the Black River State Forest have a rustic classification and will receive only minor improvements. An ADA accessible parking area and walkway may be developed at Pigeon Creek. Minor improvements to the Pigeon Creek beach are anticipated as a result of closing the Robinson Beach facility. At East Fork, planned improvements include updating the nature trail, updating interpretive signs, and adding an informational kiosk. The vault toilets at Oxbow Pond will be replaced with seasonal portable toilets, and the well will be abandoned due to poor water quality. All construction activities associated with these updates will be minor and localized and will not have any notable environmental effects.

### Non-Motorized Recreational Trails

Under the proposed master plan, there will be very few changes to non-motorized trails on the Black River State Forest. The nature trail at East Fork will be renovated, and interpretive signs will be installed. A section of the equestrian trail that is currently part of the motorized trail system will be relocated along existing logging trails to improve safety for equestrian users. A section of the bike trail between Highway 27 and Perry Creek will be closed due to a lack of connectivity with a county bike trail.

### Motorized Recreational Trails

There are currently 47.8 miles of motorized trails on the Black River State Forest. Of these miles, 33 are open to ATV use

during the summer and winter ATV seasons and snowmobile use during the winter, and 14.8 are open to winter snowmobile use only. When all actions in the proposed master plan are implemented, there will be 40.6 miles of motorized trail on the BRSF. Of these miles, 26.2 will be open to ATV and snowmobile use; however a portion, 4.3 miles, will be open to ATV use during the summer only. Snowmobile only access will be offered on 14.4 miles. All changes on the Black River State Forest will therefore result in a net reduction of 7.2 miles of motorized trails on the property (Table 1.3).

In addition to trail re-routes and closures, the majority of the trail system will receive significant upgrades to trail surfaces, including crowning, installing culverts to divert water, and filling with aggregate rock material. These changes would lessen the amount of erosion from trail surfaces, and would represent a substantial environmental improvement over current trail conditions. As part of trail improvements, all associated waterway/wetland permits and protection requirements will be met (via United States Army Corps of Engineers and DNR Water Division).

Overall, improvements to the motorized trail system on the Black River State Forest are intended to:

- Minimize wetland and water quality impacts
- Meet Department trail standards and establish a sustainable trail system
- Maintain and improve connectivity to the regional trail network
- Decrease user conflicts by separating incompatible uses
- Upgrade and maintain the existing infrastructure prior
- Increase rider safety
- Provide a quality experience for users
- Reduce weather-related trail closures
- Reduce soil erosion

**TABLE 1.3 SUMMARY OF CHANGES TO THE MOTORIZED TRAIL SYSTEM**

Trail Type	Current	Planned	Change In Mileage
Total motorized trail mileage	47.8	40.6	-7.2
ATV and snowmobile mileage*	33.0	26.2	-6.8
Snowmobile only mileage	14.8	14.4	-0.4
Winter ATV mileage**	33.0	21.9	-11.1

*\*While ATV trail mileage on the state forest will be reduced by 6.8 miles, the regional ATV trail network will only be reduced by a 1/2 mile pending a new trail connection in the Millston area (see discussion on next page).*

*\*\*The reduction of winter ATV mileage is a portion of the motorized trail which will be closed to ATV riding in the winter months. It is not a physical reduction in trail mileage on the property; therefore, it does not contribute to the total change in motorized trail mileage.*

Motorized trails on the Black River State Forest are part of a large regional network, including trails in Jackson, Eau Claire, and Clark counties that provide over 230 miles of trails on public and private land. Trail closings and upgrades on the Black River State Forest would maintain all connectors to this regional network while also minimizing the environmental impact of trails on the property.

#### ***Northern Trails***

Conflicting uses will be separated by changing the trail currently designated for use by ATV, snowmobile and horse to ATV and snowmobile only; removing equestrian use from the trail (1,500 feet of the trail will remain open to all three uses).

#### ***Castle Mound Trails***

The Castle Mound Trail will be designated for summer only ATV use in order to keep this trail consistent with the adjoining Jackson County motorized trail designation.

#### ***Wildcat Trails***

A 5.4 mile section of motorized trail will be closed to all public motorized access. This closure will reduce wetland crossings on the property by 0.77 miles and would protect unique native communities currently located along the trail. Additional benefits of this closure include improved water quality, as erosion will be limited and wetland systems will be left intact.

A 1.8 mile section of snowmobile only trail will be closed to reduce noise impacts to the Overmeyer Hills area hike/bike/ski trail. A 2.5 mile section of snowmobile trail will be closed to ATV use, but will remain open for snowmobile access, maintaining a regional trail connector for snowmobiles. These changes would also reduce the amount of wetland interface present on the property, as it will only be used during winter months.

A highly erodible section of trail south of Stanton Creek Road will be re-routed to reduce the impacts of erosion.

Facility updates on the motorized trail include expanding the parking area along North Settlement Road by up to 25%. This will enhance the recreational experience of riders by providing more space to park and load. The area for the proposed expansion is flat, upland scrub and would not be significantly impacted.

#### ***Millston Trails***

Approximately 6.7 miles of new trail are proposed for a loop near Millston (1.1 miles on state forest property). This new trail is contingent upon action required by a number of partners, including the Town of Millston, Union Pacific Railroad, and Jackson County, all of which would contribute trail mileage/

access to the project. This trail would travel primarily through county forest lands currently designated for snowmobile use only, as well as some state forest land also currently designated for snowmobile use only, requiring a change in designation to allow ATV use.

Because this trail would be established on existing county snowmobile trails, state forest snowmobile trails, railroad land, and town roads, construction of this trail would pose negligible environmental impacts due to the existing footprint for the trail. Creation of the trail would create an additional link from the Black River State Forest to the Oak Ridge section of the Jackson County trail system, which would improve the overall connectivity of the BRSF to other ATV opportunities in the region. This trail addition would also offset the losses to the motorized trail system on the state forest property and provide another short loop experience.

#### ***Boating and Canoeing Access***

The Black River State Forest has two boat landings for motorized water craft, one at Perry Creek and one at Teal Flowage, both of which can also be used as canoe landings. There are six designated canoe landings, one of which is the canoe campsite. Some of these sites experience erosion problems due to rugged terrain or seasonal, fast-water flow conditions. Halls Creek will receive reconstruction work to accommodate fast water and steep bank conditions. If a new canoe landing is developed along the Black River, possibly at Paddy's Rest, the Bottom Road canoe landing will be closed. These updates will improve water quality around existing boat landings and will reduce erosion.

#### ***Fishing***

Water access to anglers is primarily provided by boat landings and fishing piers. Currently, one handicap accessible pier is located at Teal Flowage. The State Forest Superintendent may approve construction of additional fishing piers, or relocate them as necessary and as consistent with land use classifications for the site.

To improve the fishery, Pigeon Creek Flowage may be deepened, and fish structures may be added. Improvements to fishing areas on the Black River State Forest will be minor and will pose no significant environmental impacts. Any applicable federal and state waterway permits would be followed.

#### ***Education and Interpretation Opportunities***

Currently, nature trails with interpretive signage exist at Castle Mound and Pigeon Creek Campgrounds. Interpretive signs will be developed for the nature trail at the East Fork Campground. Educational programs offered at Castle Mound Campground will continue to be offered as staffing and budgets allow.

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IMPACTS TO CULTURAL RESOURCES

Archaeological

The State of Wisconsin Historical Society has identified 13 prehistoric archeological and historical sites on the forest. An historic farmstead, located in the Overmeyer Hills Recreation Area, has been restored and is maintained by the state forest. An historic cemetery is also present on the property along with Native American pow-wow grounds along Highway 54. Historical sites on the property will be preserved and management will not affect any of these sites.

IMPACTS TO RESOURCES OF TRIBAL INTEREST

The Black River State Forest has traditionally been used by the Ho-Chunk tribe for religious ceremony purposes, plant gathering, and lodge pole harvesting. Management activities outlined in the master plan will not impact traditional use on the property.

SOCIO-ECONOMIC IMPACTS

Timber Products

Under the proposed plan, there are approximately 52,500 acres available for active forest management. This equates to 92% of the property’s forested acres, or 77% of the entire property. Eight percent, or 5,240 acres, of the entire property is designated to be passively managed. Many of these areas have not been actively managed in the past due to their lack of merchantable timber, or their steep, wet, or otherwise inaccessible nature. However, some of the passively managed areas are forested. The designation of some forested acres as passive management equates to approximately 6-8% of the forested acres on the property being removed from management. Non-forested areas, such as open water and wetlands, account for the balance of acreage unavailable for forest management.

Total Property Acres .....	68,237
Forested Acres .....	56,800
Forested Acres Available for Management .....	52,500
Passive Management Acres* .....	5,240

*\*Forested acres designated as passive management areas, equate to 6-8% of the property’s forested acres being removed from active forest management opportunities.*

There are ten designated State Natural Areas on the state forest, for a total of 4,513 acres. Nine of the 10 State Natural Areas are located within native community management areas and are passively managed.

There would be only a small and slow change in the type of forest products produced. For the near-term the forest would continue to produce pulp and sawtimber in similar proportions that it does today. As the forest matures over the next 50 to 100 years, there would be a corresponding shift to more sawlog and lumber products rather than pulpwood.

Timber can be sold either by the cord, mainly for pulpwood, or by the board foot for sawtimber. On average, the Black River State Forest harvests over 15,000 cord equivalents annually. Acres harvested range from 700 to 1,600 annually, and annual receipts average approximately \$550,000. All harvests are completed using sustainable forest management techniques. If the proposed plan were fully implemented harvest levels would increase slightly.

Timber products from the Black River State Forest help support primary and secondary wood using industries throughout the region. A small number of local area loggers also derive economic benefit from harvesting timber on the forest. Any potential increases in forest product production would not have a significant impact on the regional forest products industry. This is due to the relatively small contribution by the BRSF to the overall large regional supply of raw product and the broad, elastic nature of the product stream.

Non-timber Products

Commercial mossing has traditionally occurred on the property. Mossing will continue to be allowed; however, mossing will be prohibited in the Peatlands Native Community Management Area (Area 12), because of the sensitive habitats and hydrology.

Recreation and Tourism

The Black River State Forest’s relative proximity to major population centers, and the nearby interstate artery, makes public access to the property and surrounding areas convenient and easy. The property is considered a regional destination for recreation opportunities. Flowages and rivers on the property are already a large draw for water-based recreational activities. Four campgrounds provide year-round camping opportunities on the property. The property’s trail system provides some of the best opportunities in the region for hiking, biking, skiing, horseback riding, snowmobiling, and ATV riding. Dike 17 is a popular locale for hunters, birdwatchers, and hikers.

Recreation impacts to local communities fall into two categories: social impacts from changes in the type and level of use, and economic impacts from recreational use changes.

## ANALYSIS OF IMPACTS OF THE PROPOSED MASTER PLAN

Overall, the management actions proposed in the plan would not pose any significant negative social impacts, as proposed actions generally maintain the existing conditions on the BRSF.

The plan would continue to enhance the Black River State Forest's strong role in supporting the area's tourism economic sector. Management proposed in the master plan would support the short- and long-term enhancement of the forest's scenic, largely undeveloped river and forest environment.

Updates to the motorized trail system will maintain connections to regional trail systems while also providing a more environmentally friendly riding experience. These connections will maintain the flow of tourism dollars related to motorized trail use in the region.

### Land Use

Population density in the region of the Black River State Forest is relatively low: 19.3 people per square mile compared to the state average of 98.9 people per square mile. Most of the land in the region of the Black River State Forest is owned by the county. Other land adjacent to the forest includes land used for cranberry production, land enrolled in the managed forest law program, and land owned by the Ho-Chunk Nation. There is little residential development near the state forest boundary. Management proposed in the master plan will not alter land use significantly in the region, and given the low population density, neighbors to the state forest should not be impacted by any management.

It is likely that a small increase in service sector businesses could occur as a spin-off of state forest uses. Because of the Black River's position within a larger regional motorized trail network, ATV use in particular is expected to draw visitors to local restaurants, hotels, and shops within the region. This use is expected to continue to have a positive economic effect on local communities.

### Impacts on Infrastructure and Transportation

Due to recreational improvements on the Black River State Forest, a small increase in recreation users may be expected. The amount of visitors is not expected to increase enough to necessitate increased local road maintenance.

A slight increase in heavy truck traffic may be noted while timber sale contracts are being executed. Because of the heavily forested aspect of the region, the presence of logging trucks on local roads is not unusual.

The Black River State Forest will be a generator of solid waste. All of Wisconsin's state forests promote and participate in recycling programs to mitigate generation of non-recyclable material that must be disposed of in sanitary landfills. A licensed sanitary waste contractor will be hired to pick up recyclable waste and non-recyclable materials. Backpack campers using remote campsites will be required to observe a carry-in, carry-out policy.

### Noise Impacts

Construction noise resulting from capital improvements such as trail resurfacing, facility construction, and forest management could have a moderate impact on the forest's neighbors and wildlife. All of these groups could be sensitive to this disruption, especially during warm weather when windows may be open. This noise would be peak (high level, short duration) during construction periods, rather than continuous. When the activities cease, the impacts would cease.

Forest management activities are also anticipated to generate characteristic but transient noises. Primary sources would be from chainsaws, skidders, other harvesting machinery, and from logging trucks.

The elevated presence and activities of forest visitors (especially motorized recreational users) and campers may present a potential for reaction from neighbors or other forest visitors and thus an impact. Regulations on the use of amplified sound devices (radios, stereos, etc.) and loud conduct exist for the purpose of minimizing the imposition of unwanted noise to neighbors of the forest as well as neighbors inside the forest, especially in camping situations.

### Fiscal Effects on Local Governments

#### Local Tax Revenues

If additional lands are acquired from the boundary expansion outlined in this plan, local governments may receive slightly more revenue in the form of aids-in-lieu-of-taxes (discussed below). The local governments' future demand for expanded services (schools, law enforcement, etc.) would be expected to be less than if those parcels were to be subdivided and developed.

Under a statute enacted on January 1, 1992, each time a new property is acquired, the purchase price is set as an equivalent of an assessment, and aids-in-lieu of taxes are paid on that basis. Because the purchase price is often higher than the equalized assessed value of the property, the DNR's payment is often slightly higher than the tax paid under the previous owner. As additional properties are acquired for the Black River State Forest, this effect would continue.

# ANALYSIS OF IMPACTS OF THE PROPOSED MASTER PLAN

## Payments in Lieu of Taxes

When the state purchases privately owned land, it is removed from the tax rolls. To replace any lost revenue from removing this land from tax rolls, the Department makes a payment in lieu of taxes to each taxation district in an amount equivalent to property taxes. Under the payment in lieu of tax program, acquisition of lands by the state does not increase local taxes.

When privately owned parcels are acquired by the DNR, any reduction in tax revenues are offset by the Wisconsin State Law that provides for payments from the DNR. The law requires that the payments fully replace or exceed the property taxes that would have been collected if the land were not acquired by the DNR. For all lands acquired after January 1, 1992, the state makes a payment in lieu of taxes to each taxation district (town, county, school district, etc.) in an amount equivalent to the property taxes. The only difference between this program and private land taxation is the relation to the assessed value. The initial assessment value of Department lands is set at the Department purchase price of the land based on the fair market value. Subsequently, this value is adjusted to reflect any changes in assessed value in the taxation district. The first year payment is based on an adjusted price. All other aspects of the way the DNR pays this aid in lieu of taxes under this program are the same as for a local taxpayer.

## Demand on Local Government Services

The plan's recreation management would not generate a significant change in the demand on local law enforcement or emergency services. Most Black River State Forest law enforcement issues are handled by rangers on the property, rather than local police or sheriffs. Demand on local emergency medical services may rise slightly in response to increased recreation use on the property.

The plan's proposed land management would not generate any significant new demand for local or county law enforcement or emergency services. There are few needs for local services related to forest management and other land management activities. The level of impacts to highways and traffic patterns by logging trucks would not change as logging activity under the plan will remain similar to present levels.

## Fiscal Effects on the State

### Land Acquisition Costs

Lands purchased for addition to the forest would likely be acquired using State Stewardship funds or a similar bonding fund. Similarly, bonding programs fund the development of much of Wisconsin's State Forest System. The cost to the state of bonding for land acquisition and project development occurs when the dividends are paid on the bonds. Several methods of making these payments could be used, the main

one being General Fund Support. Conversely, a benefit would accrue to the holders of the same bonds.

The Wisconsin State Forest program budgets for its capital development needs on a biennial basis, as do all state agencies. Funding priorities within the capital budget would be adjusted to accommodate development on the forest as necessary.

The estimated gross value of the 19,749 acres of land within the proposed boundary expansion area is approximately \$49.4 million, based on the average land value in the Black River State Forest area of \$2,500 per acre in 2008.

The Stewardship Fund, which is based on state bonding, would likely be a primary funding source for acquisitions in the near term. Purchases of land within the boundary expansion areas would be only from willing sellers and it would extend over many decades. Not all lands within the expansion area would ever be purchased.

## Development Costs

The Department budgets for its capital development needs on a biennial basis, as do all state agencies. The plan calls for the developments to be phased-in over an extended period of time, probably several state budget cycles. The extent that these costs would fall into any particular biennial budget is unknown. The following development cost estimates are given in 2008 dollars:

### ATV Developments

Installation of wetland crossings on 1.2 miles of trail*	\$211,000
Upgrading portions of the trail system**	\$1,250,000
Expanding parking lot for ATV parking	\$5,000

*\*Wetland crossing specifications include: replacement and or addition of culverts, a base of filter cloth, 2-4 feet base of 6-12 inch cobbles, 6 inch top of 3/8 - 2 inch pit run, slight crown, width of 12 feet, and excess trail width will be removed to allow revegetation of wetland flora.*

*\*\*Upgrades will create a standard width of 16 feet. In portions of the trail that have become wider from use, downed trees, rocks, guardrail, etc. will be used to keep traffic off and allow these sections to revegetate. The top base will be 3/8 to 2 inch pit run or similar aggregate; the depth will vary based on how eroded the section of trail is and how heavy the traffic is. Different levels and types of base will be used to determine which works best. Some sections in wet areas (not classified as wetlands) may need to be raised 1-4 feet and that will be done according to the wetland crossing specifications above.*

## ANALYSIS OF IMPACTS OF THE PROPOSED MASTER PLAN

**Facility Developments**

New shop .....	\$778,000
New office building at Castle Mound .....	\$700,000
Convert old contact station to ADA accessible cabin ...	\$60,000
Electricity at Smrekar Warming Shelter.....	\$17,000
Well at Smrekar Warming Shelter .....	\$5,000
New storage facility at Smrekar Trail .....	\$15,000

**Camping Developments**

Additional electric sites at Castle Mound Campground.....	\$35,000
<i>(if max 28 sites are upgraded)</i>	
Relocate trailer dump station at Castle Mound .....	\$15,000
Increase spur lengths at select Castle Mound campsites .....	\$3,000
Replace vault toilets with flush toilets and develop a new shower facility at Castle Mound.....	\$350,000
<i>(existing shower facility may be closed after new facility is built)</i>	
Install manure and hay storage facility at equestrian campground; install improved directional and informational signage .....	\$1,000
Replace or remove vault toilets at the Group Camp .....	\$40,000

**Day Use Areas**

Renovate nature trail at East Fork and install interpretive signs and kiosk.....	\$5,000
New canoe landing, possibly at Paddy's Rest .....	\$10,000
<i>(if built, landing at Bottom Road will be removed)</i>	
Improvements at Halls Creek Landing .....	\$5,000
Demolish Oxbow Pond restrooms .....	\$5,000

**Total Estimated Development Costs .....\$3,510,000**

**Operational Costs**

It is estimated that to fully meet the operational needs related to recreation, if the proposed plan were fully implemented, the annual operating costs of the Black River State Forest

recreation program (staff salary, benefits, vehicle needs, and support) would need to increase by \$225,000. This cost estimate reflects a staffing increase of two permanent FTEs (park manager and office operations associate) and two seasonal LTEs. Although there are \$3.5 million in recreational developments, these are primarily replacing existing developments, so no significant increase in developments is occurring.

The primary impacts on operational costs for the land management program would be from increases in forest management staffing. Currently the Black River State Forest has 1.8 FTE foresters performing active management on approximately 1,200 acres per year. Under the proposed plan, the level of forest management activity would rise to 1,600 acres per year. Correspondingly, to fully meet the plan's management objectives the number of forester positions on the forest would need to increase by one FTE. The fiscal impact would be \$90,000 of additional annual operational cost for salaries, benefits, vehicles, and support. Active forest management involves activities such as inspecting stands and scheduling management activities, setting up timber sales or other treatments, and administering timber sales.

The total increased annual operational costs for both the proposed land and recreational management programs are estimated to be \$315,000. This is based on a total increase of three permanent FTEs and two seasonal LTEs.

**Revenue from Timber Products**

Revenue is generated on the Black River State Forest primarily by timber sales and recreational use fees. Timber sales between 2003 and 2007 averaged over \$550,000 annually, providing approximately 85 percent of the total average annual BRSF revenue. All state forest revenue is deposited into the state conservation fund, and then appropriated by the state legislature in the biennial budget process.

If the land management plan is fully implemented the product volume is estimated to increase only slightly from current levels. Assuming current product values, the annual revenue from forest product sales over the next 15-20 years would be approximately \$600,000 annually. However, estimates of future timber sale revenue are difficult to predict because of variable market forces.

**Revenue from Recreation**

Recreational revenue on the Black River State Forest has averaged about \$94,000 annually between 2003 and 2007. No new significant recreational developments are planned, so recreation revenue will generally remain the same or there may be a slight increase as a result of increased visitors to the forest because of improvements to existing facilities.

## ANALYSIS OF IMPACTS OF THE PROPOSED MASTER PLAN

### IMPACTS OF BOUNDARY EXPANSION

#### Costs

Six boundary expansion areas totaling 19,749 acres are planned for the Black River State Forest. If all lands within the areas were acquired, total acreage for the BRSF would increase to 87,986 acres. State funds would be expended, as they are available, to purchase these additional lands unless alternate funding sources are available, or donations or partial donations of land occur.

For all State land purchased after 1992, the Department makes an annual payment in lieu of real estate taxes to replace property taxes that would have been paid if the property had remained in private ownership. More detailed information on how the Department pays property taxes may be found in a publication entitled *Public Lands and Property Taxes* (PUB-FR-166) or at <http://dnr.wi.gov/forestry/publications/PLPT.pdf>.

#### Changes in Land Use

Newly acquired properties within the boundary would be kept in an undeveloped state, unless specifically designated for use or development in the master plan. Existing improvements, when not needed for forest purposes, would be auctioned or sold for reuse elsewhere or salvaged for materials.

Slightly fewer residences or other developments may exist within the project area, thus a reduction in demand for public services such as police and fire protection may occur. If the former property owners relocate or build within the same municipal jurisdiction, the net effect would be zero.

#### Long-term Resource Protection, Ecological, and Recreation Benefits

The proposed boundary expansion protects parcels of land important for their ecological, hydrological, and scenic attributes. These areas would contribute to the diversity of ecosystems found within the Black River State Forest, as well as enhance wildlife habitat, and protect scenic landscapes from development. These landscapes include significant blocks of forested land which will be managed using sustainable forestry practices and will provide associated recreation, habitat, and endangered resource benefits.

Many of the boundary expansion areas were selected to protect water resources, particularly systems of the Black River. Two of the boundary expansion areas protect about eight (East Fork), and over 10 (South River) miles of undeveloped shoreline. These areas will safeguard ecologically important habitat, fisheries, water quality, and scenic values. Other expansion areas, Jay Creek and Halls Creek, present the opportunity to link the Black River State Forest with nearby state managed lands. The two remaining areas are small,

but will protect important wildlife corridors, preserve native communities, and protect undeveloped shoreline with scenic value.

#### Property Management Benefits

The boundary expansion will increase the size of the forest and provide manageable, contiguous blocks of forest. Acquired lands will also enhance the connectivity of public lands within the region of the Black River State Forest, and will help buffer the property from development in surrounding areas.

#### Payment to Landowners

Payment to landowners for land acquired by DNR may provide a profit to the seller. Or, it may enable sellers to invest in other real estate in the region, thus creating an economic benefit in the real estate market.

All property purchases are on a willing seller basis. As required by state and federal laws, the Department pays “just compensation” for property, which is the estimated market value based on an appraisal by a certified licensed appraiser. At times, it is in the interest of the Department and the landowner for the Department to acquire only part of the rights to a property, or an easement. The Department has a number of easement alternatives available to address these situations.

### IMPACTS ON ENERGY CONSUMPTION

Because of the limited amount of facility development that will occur on the Black River State Forest, no significant impacts to energy consumption are expected. All new facilities, which are primarily replacing existing facilities, will be designed using the Department of Administration’s construction guidance.

### ENVIRONMENTAL EFFECTS AND THEIR SIGNIFICANCE

#### Short- and Long-term Impacts

Some forest management activities and facility developments, including campground and day use facility upgrades, will have short-term impacts on soil. Both activities can result in exposed soil which may temporarily increase erosion. In both instances, the impacts will be lessened through the use of BMPs and other erosion control practices. Forest management and facility developments can also have short-term impacts on water resources, including wetlands, mainly due to increased erosion and any resulting sedimentation. Forest roads tend to be the largest contributor to erosion and sedimentation; however, no new forest roads are planned at this time. Further, facility developments are replacing existing structures, so overall impacts to soil and water are expected to cause only minor, short-term impacts.

Upgrades, closures, and re-routes to the motorized trail system will have long-term, positive impacts on soil and water quality such as reducing rutting and erosion and mitigating wetland

impacts. Rivers and flowages will also receive long-term positive benefits through management activities that will generally let natural processes dominate. This will protect aesthetic qualities and also enhance natural communities for ecological values and rare species habitat needs.

Additional long-term positive impacts will result from the sustainable management of both forested and non-forested communities which will protect and enhance habitat for a variety of wildlife species. Management activities will always be conducted in a way that protects endangered, threatened, and rare species, both plants and animals, and their habitats.

#### **Impacts on Geographically Scarce Resources**

There will be no detrimental impacts to geographically scarce resources on the property. Management areas have been designated in a way which protects these features, and management activities will be conducted in a way that protects any scarce resources.

#### **Reversing the Impacts**

While none of the impacts are reversible, any unfavorable impacts will be minor and short-lived. Using appropriate management techniques including proper planning, BMPs, and other erosion control practices will keep impacts to a minimum and allow any impacted sites to recover quickly.

### **CUMULATIVE EFFECTS, RISK, AND PRECEDENT**

#### **Significance of Cumulative Effects**

The cumulative effects from the draft plan for the Black River State Forest would have a long-term positive effect on the quality of the human environment. Recreational facility improvements, particularly resurfacing of ATV trails, would provide an improved rider experience, while also protecting water quality around the Black River, and reducing the effects of erosion on the property. The plan's proposed land management would maintain and expand protection of critical ecological habitats, in the process protecting important threatened and endangered species. Overall, the proposed management plan would have a positive impact on the local tourism economy by updating recreational facilities and maintaining and enhancing the visual characteristics that are a strong draw of visitors to the region.

The acquisition of additional lands as a result of the proposed boundary expansion would, over time, contribute substantial positive cumulative ecological, recreational, and economic benefits. These benefits would be derived from the land and water frontage that would remain permanently undeveloped and open to public use, the protection of valuable habitats and ecosystems (including important headwater areas, and habitats

supporting rare, threatened, and endangered species), and the continued production of timber products as a result of long-term sustainable forest management.

#### **Significance of Risk**

Management and development of the Black River State Forest pose a low overall potential risk to the environment. Most actions are low-risk and would be a continuation or slight modification of existing management and uses; therefore, the level of risk in the future is low. No new, high-risk actions are proposed, nor are any actions which involve an irretrievable commitment of resources, or actions that could not be reversed in the future.

The presence of motor vehicles and other equipment during construction may pose a slightly increased risk from spills and erosion. These risks would be mitigated by BMP requirements put in place in the bid documents and at the preconstruction meeting with contractors.

The use of fire as a management tool may also pose a slight risk on the property. While the use of fire increases the risk of a prescribed fire turning into a wildfire, the risk would be mitigated by using experienced staff to conduct all burns, burning only under lower risk conditions, having appropriate firebreaks established, and having fire-fighting equipment and personnel present on-site.

Risk to the resources of the forest resulting from human activity during normal operation is mitigated by emergency action plans and procedures put in place by forest management staff. These plans are reviewed annually and updated as needed or whenever circumstances change.

Risk of introduction of invasive exotic species may increase due to public entry and use of the property. Plans and strategies, as described in the Black River State Forest Master Plan, are in place to prevent and control outbreaks and infestations.

#### **Significance of Precedent**

Approval of this management plan would not directly influence future decisions on other Department property master plans. However, this plan or portions of it may serve as reference or guidance material to aid in the preparation of master plans for similar properties elsewhere. Implementation of the objectives contained in the plan would not be precedent-setting, primarily because all proposed actions are management and development activities that regularly occur on state forests and parks in Wisconsin. Further, this property has a long history of both public recreation and forest management activities.

# ANALYSIS OF IMPACTS OF THE PROPOSED MASTER PLAN

## CERTIFICATION OF WEPA COMPLIANCE

The proposed project is not anticipated to cause significant adverse environmental effects. The Department has made a preliminary determination that an Environmental Impact State-

ment will not be required for this action. This recommendation does not represent approval from other DNR sections, which may also require a review of the project.

## DECISION ON THE NEED FOR AN ENVIRONMENTAL IMPACT STATEMENT

Project Name: Black River State Forest Master Plan

County: Jackson and Clark

DECISION (This decision is not final until certified by the appropriate authority)

In accordance with s. 1.11, Wis. Stats., and Ch. NR 150, Wis. Adm. Code, the Department is authorized and required to determine whether it has complied with s.1.11, Wis. Stats., and Ch. NR 150, Wis. Adm. Code.

### Preliminary Decision

The Department has made a preliminary determination that the Environmental Impact Statement process will not be required for this action/project. This recommendation does not represent approval from other DNR sections which may also require a review of the action/project.

Signature of Evaluator:



Date Signed:

2-27-09

Number of responses to news release or other notice:

### Final Decision

Pursuant to s. NR 150.22(2)a., Wis. Adm. Code, the attached analysis of the expected impacts of this proposal is of sufficient scope and detail to conclude that this is not a major action, and therefore the environmental impact statement process is not required prior to final action by the Department.

The Department has determined that it has complied with s. 1.11, Wis. Stats., and ch. NR 150, Wis. Adm. Code. This decision does not represent approval from other DNR sections which may also require a review of the action/project.

Certified to be in compliance with WEPA

Environmental Analysis Program Staff:

Date Signed

## NOTICE OF APPEAL RIGHTS

If you believe that you have a right to challenge this decision, you should know that Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions must be filed.

For judicial review of a decision pursuant to sections 227.52 and 227.53, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review shall name the Department of Natural Resources as the respondent.

This notice is provided pursuant to section 227.48(2), Wis. Stats.





# ALTERNATIVES AND THEIR ENVIRONMENTAL IMPACTS

This section describes the anticipated impacts of alternatives that were not selected for inclusion in the final master plan.

## LAND MANAGEMENT ALTERNATIVES

### Forest Production Alternatives

For two of the three forest production areas, native community or habitat management were not selected because large, remote blocks of land suited for this type of management were not present in these areas.

A Ruffed Grouse Habitat Management Area was considered for the Morrison and Levis Creek Basin area; however, since this area is dominated by aspen it will maintain a diversity of aspen age classes and thereby promote quality Ruffed Grouse habitat naturally.

### Habitat Management Alternatives

One alternative considered for the Dike 17 Habitat Management Area was to expand the area with an additional 500 acres north of Highway 54. Much of that land was better suited for forest production; hence this alternative was not chosen.

Another alternative discussed for the Dike 17 Management Area was to retain its current size of 3,700 acres. This alternative was not chosen because it would eliminate opportunities for expanded management of flowages and open brush/grass habitat, which is beneficial to wildlife that inhabit and use the area.

### Native Community Management Alternatives

One management alternative that was considered for many of the native community management areas was to allow periodic thinnings throughout the entire actively managed portion. In most instances, this alternative was not chosen because deviating from an older, more closed canopy forest stand did not align with the overall goals for the various native community management areas. The unique ecological values of these areas are better managed toward old growth conditions.

For the Peatlands area, an alternative considered was to allow mossing; however, due to the unique ecological values of this site, it was considered an inappropriate use considering the potential negative impacts. Mossing is allowed in other areas of the state forest.

An alternative considered for the Stanton Pines area was to manage this area under the old growth management guidelines. This option was not chosen because this area currently contains primarily young white pine stands and has limited potential for old growth conditions at this time. The scale and near future ecological attributes of other white pine native community areas could not exist here without older white pine stands. This area will still be managed for older white pine to promote old forest conditions.

### Location of Management Area Boundaries

One alternative discussed was to adopt the original Biotic Inventory Primary Site boundaries, without any changes, in order to delineate the native community management areas. This was not adopted because the Biotic Inventory Primary Site boundaries were extensive and ecological attributes of some sites could be maintained or improved via other land management classifications. Also, the Primary Site boundaries did not entirely follow current stand lines and the boundaries would have been more difficult to distinguish on the ground for management purposes. In addition, some of the Primary Site boundaries excluded good candidate stands that could contribute to the overall area objectives such as at Stanton Creek Pines and the East Fork of the Black River. Other Primary Site boundaries included some areas that were not consistent with management area objectives. This is especially the case for a number of the sites in the Peatland area.

## RECREATION MANAGEMENT ALTERNATIVES

### Modern Campground Alternatives

One alternative discussed was to maintain the existing number of electric campsites at the only modern campground on the forest, Castle Mound. This option was not chosen because of current and future anticipated visitor demand for electric campsites and because this is the only modern campground available. A potential impact of this alternative would be decreased use because of a lack of additional amenities.

Another alternative considered for the Castle Mound Campground was to redesign a portion of the campground to accommodate ATVs and connect to the ATV trail. This alternative was not chosen because ATV campgrounds are already available at Lake Arbutus and Crawford Hills in Jackson County, removing the need for additional ATV camping on the state forest. There are also three campgrounds in Clark County with direct access

to ATV trails. An impact of this alternative would be displacing users who tend to prefer traditional type camping. Currently, the campground is usually full every weekend, so the current use and demand do not promote a redesign for ATV camping.

### **ATV Campground Alternatives**

Two options were considered and the decision was made not to pursue either of these (no preferred alternative).

As mentioned above, one consideration was to redesign a portion of the Castle Mound Campground to accommodate ATVs. The impact of this alternative would be displacing the current use of the campground, which is currently more traditional, and receives significant use every weekend.

The other alternative considered was converting all or a portion of the Pigeon Creek Campground to an ATV campground. There is some thought that this may relieve some of the congestion currently occurring at the Jackson County Lake Arbutus ATV campground. Another benefit to this alternative is that the campground is in close proximity to the Wildcat ATV trail. The impact of this alternative is that when the proposed plan is implemented, that portion of the ATV trail will be closed, so the proximity will no longer exist. There would also be a fiscal impact of managing this campground as an ATV campground. An additional reason why this alternative was not pursued is that the Crawford Hills ATV Campground in Jackson County, which offers a similar level of amenities, has experienced a fairly significant decline in usage which has led to considerations by the county to close the campground. This decline in usage does not suggest a need for ATV camping opportunities on the state forest. Further, there are nine campgrounds that already offer direct access to the trail system in Jackson and Clark Counties.

### **Rustic Campground Alternatives**

An alternative discussed for rustic campgrounds on the forest was to provide additional facilities or amenities, such as electricity. One impact of this alternative would be displacing users who prefer the rustic camping experience. Another reason why this alternative was not chosen was the high cost to convert these campgrounds to modern campgrounds due to the long distance from an electrical line. Also, a secure facility would be needed to house a computer to receive and administer electronic camping reservations.

### **Equestrian Campground Alternatives**

No other alternatives were considered because the existing size, location, and primary amenities at the facility are deemed adequate for present and anticipated future needs.

### **Canoe Campground Alternatives**

No other alternatives were discussed because additional canoe campsites are not feasible due to steep river banks. If additional land is acquired along the Black River or East Fork of the Black River, additional canoe campsites may be considered if a demand arises and appropriate sites can be located.

### **Bike Trail Alternatives**

Two alternatives were considered for designated bike trails on the forest. First was the development of a bike trail connector to Wazee Lake. Although supported by the state forest, this alternative was outside of the scope of this master plan because the connection would require traversing primarily county forest and town roads, so it was not pursued as an alternative within this proposed master plan.

A second alternative discussed was to upgrade the bike trail surface between Castle Mound Campground and Perry Creek, including the reconstruction of a bridge crossing which was previously removed. The impact of this alternative is that it would require additional fiscal inputs to upgrade and maintain. Because this trail experiences a low level of use, and because bike trails are offered on other parts of the property, this alternative was not further considered.

### **Motorized Trail Alternatives**

One alternative discussed was re-routing some of the motorized trails onto town roads to reduce further environmental degradation, but this alternative was not chosen because town roads do not provide the type of riding experience that riders desire and there are safety concerns related to recreational riding on town roads. Also, the townships did not support this alternative.

Another option presented was designating a portion of the trail currently only designated for snowmobile use to year-round ATV use. This portion of the trail, known locally as the Ho Chi Minh Trail and located in the middle of the property, would create a large ATV loop and also connect the northern and southern parts of the state forest. One impact of designating this as an ATV trail is that this portion of the trail contains numerous wetland crossings, some quite significant in length thus violating the DNR's criteria for siting new ATV trails. Creating a trail safe for summer ATV use would require significant upgrades to the trail, including potentially extensive work at the wetland crossings such as installing bridges or boardwalks and modifying trail drainage, and also obtaining the associated permits. Additional maintenance would also be necessary in order to keep the trail safe throughout the summer months. All of these impacts also include a fiscal component, so the cost would be an additional impact to designating this trail for ATV use. In addition, this trail does not

## ALTERNATIVES AND THEIR ENVIRONMENTAL IMPACTS

provide adequate access points for enforcement or emergency vehicle response. This trail is also located in close proximity to the Dike 17 Wildlife Habitat Management Area. ATV use near this habitat management area may negatively impact wildlife through noise, displacement, or may negatively impact water quality from erosion and sedimentation. In general, a motorized recreational trail would not align with the goals and objectives of the Dike 17 Wildlife Area. This alternative was not chosen due to the development and maintenance costs associated with opening this trail up for ATV use, along with the ecological impacts related to significant wetland interface and proximity to Dike 17.

An additional alternative considered was expanding the miles of motorized trails. Trail expansion opportunities are severely limited by the soils and hydrology of the property. Further, maintenance of the current trail system has become an issue, so additional trail miles would not be feasible due to the added maintenance that would be required. Further, the regional trail system already offers over 230 miles of riding opportunities. The ecological and fiscal impacts of expanding the motorized trail system would be too great.

### ***Northern Trail Alternatives***

One alternative considered for the northern area of the motorized trail system was to construct a new trail for ATV and snowmobile use only. The current trail in this area is designated for use by snowmobiles, ATVs, and horse riders. There tends to be user conflicts due to the combination of having motorized and non-motorized use on the same trail. One impact of this alternative would be that ATV riders would be routed away from the Lake Arbutus campground (non-DNR) which is very popular for ATV riders. There would also be a fiscal impact of constructing and maintaining additional miles of motorized trail (discussed above). Ecological impacts would also be a concern because new trail construction would initially result in increased water runoff, erosion, and sedimentation and also the potential to introduce and/or spread exotic and invasive species.

### ***Wildcat Trail Alternatives***

One alternative for this section of the motorized trail system was to leave all segments open to their current designated use (one segment of the trail is currently designated for snowmobile only). One impact of keeping this portion of the trail open would be fiscal in nature due to the significant amount of maintenance and upgrades that would be needed. This portion of the trail has numerous wetland crossings which would need to be upgraded and maintained. Another impact of leaving this portion of the Wildcat Trail open (which is planned to be closed to all motorized use) would be continued user conflicts due to the proximity to designated hike, ski and bike trails and rustic

camping areas. Due to these impacts, keeping this portion of the trail open to ATV use was not a feasible alternative.

Another alternative was to open this portion of the trail only seasonally from Memorial Day to Labor Day, which would keep it open during the peak season of usage, and reduce noise issues for those using the non-motorized area of the property for nine months out of the year. This alternative was not pursued because it would still not address the erosion and wetland issues and would require costly upgrades and maintenance as discussed above.

## PROJECT BOUNDARY EXPANSION ALTERNATIVES

### **Alternatives**

One alternative discussed was to leave the master plan's project boundary unchanged. Choosing this alternative would remove opportunities to buffer present ownership from increasing development pressures and to protect water quality, habitats, and aesthetic values associated with the Black River.

The second alternative considered was to expand the property boundary further south along the Black River corridor. This alternative would have produced a long, narrow, linear shape to the southern part of the property, creating a variety of management inefficiencies.







## SUMMARY OF THE PUBLIC INVOLVEMENT PROCESS

In accordance with Wisconsin Administrative Code, NR 44 - Master Planning for Department Properties, the Black River State Forest embarked on a plan to involve the public in the process of developing the master plan. From its beginning, steps were taken to ensure opportunities for public involvement throughout the planning process.

The Department developed a Public Participation Plan which was available for public review on the internet and in print. *The plan outlines the public participation strategy for soliciting public review and input into the development, evaluation, and adoption of the revised Black River State Forest Master Plan.* It describes legislative standards that guide the planning process, methods of communication between the DNR and public, and how decisions are made.

### PRIMARY STAKEHOLDERS

To develop an effective master plan, the Department listens to many voices. People of varied interests and backgrounds have participated in *Black River State Forest* master planning activities. Some of these "stakeholders" in the future of the *Black River State Forest* include neighboring landowners, conservation organizations, recreation users, civic groups, state and federal agencies, local and tribal governments, and members of the local business community.

Government-to-government contact was maintained with local towns and county governments. Elected officials were informed of planning activities and proposals by mail and personal contact. Representatives of local tribal government, and interested tribal members, were consulted and invited to comment on all phases of the developing master plan.

### METHODS OF PUBLIC CONTACT AND INVOLVEMENT

Various means were used to inform the public of the planning process and to promote public involvement throughout the development of the master plan. This involved periodically contacting public stakeholders to gather information and provide ways for people to participate.

### Communication Methods

- Statewide news releases and media interviews
- Direct mailings of public involvement notices, draft documents, public comment forms, and progress updates
- Public meetings
- Presentations to interested groups and organizations
- Personal contacts with visiting clientele, and by telephone or written correspondence
- E-mail correspondence
- Government-to-government consultations or informational presentations
- The *Black River State Forest* internet website was a comprehensive resource used to facilitate the public involvement plan. Nearly all documentation produced on the plan was made available at the forest's website: [http://dnr.wi.gov/master\\_planning/BlackRiver/](http://dnr.wi.gov/master_planning/BlackRiver/)
- Comment forms were posted online for people to electronically submit their contributions, ideas and suggestions during each public comment period.

### Topics Posted on the Website

- General Information about the state forest
- A letter to the public from the State Forest Superintendent inviting participation
- Forest Master Plan Overview explains the Department's overall approach to master planning
- Public Participation Plan
- Regional and Property Assessment
- Property Planning Maps
- Vision Statement and Property Goals
- Preferred Alternative and Options
- Draft Master Plan
- Environmental Analysis

## SUMMARY OF THE PUBLIC INVOLVEMENT PROCESS

### PUBLIC COMMENT

Public comments were submitted by interested or affected parties throughout the master planning process. The public's input was received in a variety of formats: written comment forms, online surveys, mail, e-mail, fax, or verbal correspondence. Department staff analyzed and recorded comments for public record. A qualitative summary of comments was prepared following each phase of the master planning process. Each comment summary reviewed key issues, described what was heard collectively, and reported that information back to the public.

### ISSUE IDENTIFICATION AND CONSIDERATION

At each major step in the process, the public's input served as a planning tool to help identify planning issues and suggestions. The public's comments, the Regional and Property Analysis, DNR staff technical input, and other considerations guided the master planning team. During this process decisions were made based on:

- The land's resource capability
- The role of the property in its local and regional context
- Applicable federal and state laws, administrative DNR Codes, and DNR design standards
- Policies and missions of the state forest and its programs
- Consultations with tribal representatives
- Consideration of public input
- The professional expertise of DNR managers

A broad range of interests were heard and considered in the development of the master plan. Final decision making responsibility and authority rests with the DNR's citizen policy-making Natural Resources Board (NRB). The NRB reviews the draft Master Plan and Environmental Analysis and makes an approval decision on the plan. The public has a final opportunity to comment at the NRB meeting before the Board renders their decision.

### MASTER PLANNING PUBLICATIONS

Information on a variety of topics was compiled to support the planning process and was made available to the public. These documents are available in paper copy by order request from the Division of Forestry. The website is a long term repository for master planning documents and the final master plan which can then be readily accessed in the future at: <http://dnr.wi.gov/forestry/stateforests/SF-BlackRiver/>

### Planning Documents

Working documents were developed with involvement from the public as the master plan's focus narrowed toward completion. Completed documents were made available to the public by request, during public meetings and were posted on the internet. They were also distributed statewide to local public offices and public and depository libraries.

For the *Black River State Forest* this literature included a Citizen Participation Plan, Vision and Goals Statements, Regional and Property Assessment, and the Preferred Alternative and Options, all of which contributed to the development of a final Master Plan and Environmental Analysis. Maps depicting management areas and proposals were produced as a tool for planners and to inform participants during public meetings. They were included with published documents and were posted on the *Black River State Forest* master planning website.

### COMMUNITY INVOLVEMENT AND PUBLIC PARTICIPATION

The Wisconsin Department of Natural Resources, recognizing that the Black River State Forest must reflect the people it serves, encouraged citizen input throughout the planning process. Public meetings were announced via the media, direct mail, a website and postings to the statewide meetings calendar. Opportunity to sign up for mail or e-mail contact lists was incorporated as part of an online internet page and in literature that was distributed during the planning process.



## SUMMARY OF THE PUBLIC INVOLVEMENT PROCESS

TABLE 3.1 AGENCIES, GOVERNMENT UNITS, AND UITIZEN GROUPS ON MAILING LISTS (SEPTEMBER, 2008)

400 Club	Millston Town Board
Army Corps of Engineers, Real Estate	Millston-Knapp Sportsman Club
Assembly, 91st Dist.	Natural Area Preservation Council
Assembly, 92nd District	Neillsville/Granton Trail Busters Inc.
Association of Wisconsin Snowmobile Clubs	Regional Plan. Committee - Jackson Co.
Augusta Trail Vipers ATV Club	Snowmobile Assoc.- Pres. - Jackson Co.
Back Forty ATV Club	Stan Plis Sportsmans Club
Black River Power Sports	State Capital
Corner Club ATVers	The Nature Conservancy
Millston Knights ATV Assoc. Inc.	Town of Adams
Tri County Trailblazers ATV Club	Town of Albion
WATVA	Town of Alma
Basin Educator	Town of Brockway
Black River Area Chamber of Commerce	Town of City Point
Black River Falls, Clerk/Treasurer	Town of Dewhurst
Black River Falls, Mayor	Town of Irving
Black River State Forest Trail Foundation	Town of Knapp
Co. Board, Clark Co.	Town of Komensky
Co. Clerk, Clark Co.	Town of Levis
Congress 3rd District	Town of Manchester
Coulee Region Sierra Club	Town of Millston
Ducks Unlimited - Area	Trees For Tomorrow Inc.
Ducks Unlimited- SW WI Region	Trout Unlimited - Coulee Region
Forest and Parks Dept. - Jackson Co.	Trout Unlimited - Ojibseau Chapter
Forest and Parks Dept - Monroe Co.	US Senate representative
Forest and Parks Dept - Clark County	USDA APHIS -WI Wildlife Services-State Dir.
Fort McCoy Dept. of Natural Resources	UW Extension, Jackson Co.
Friends of Bruce Mound, Inc.	UWEX - 4-H & Youth
Friends of the Black River	UWEX - Agriculture Agent, Clark Co.
Gov. Council on Forestry	UW-Madison Dept. of Forest Ecology and Mgt.
Great Lakes Timber Professionals	UW-Stevens Point
Hatfield Hydro Partnership	WDNR - Jackson Co Forest Liaison
Jackson Co. Highway Dept.	Whitetails Unlimited
Historical Society - Jackson Co.	WI Bear Hunters Assoc.
Ho-Chunk Nation	WI Conservation Congress - Forestry Parks
Jackson County Trail Riders	WI County Forests Assoc.

## SUMMARY OF THE PUBLIC INVOLVEMENT PROCESS

TABLE 3.2 PUBLIC PARTICIPATION AND CONTACTS REPRESENTED ON MAILING LISTS (SEPTEMBER, 2008)

Public participation and contacts represented on mailing lists (September, 2008)	Totals
Individual citizens on mailing list	192
Organizational contacts (conservation, civic, sportsman, and recreational groups)	86
Local businesses participating on mailing list	42
Local media	5
Public libraries	16
Government and tribal units	96
<b>Total direct mail contacts (updated with recent public involvement)</b>	<b>437</b>
Electronic /e-mail distribution	91
<b>Combined mail and e-mail contacts as of 4/22/08</b>	<b>528</b>
Number of Zip code locations represented in public contacts database	51
Other states represented in database	4

TABLE 3.3 CHRONOLOGICAL SUMMARY OF PUBLIC INVOLVEMENT

2007	Black River State Forest Public & Government-to-Government Contacts
3/13/07	Meeting with Millston Town Board
3/8/07	Public meeting in Black River Falls – discussed issues identification, Vision & Goals, Regional and Property Analysis
8/14/07	Meeting with Komensky Town Board
8/14/07	Meeting with Jackson County Forestry and Parks Committee
10/09/07	Meeting with Millston Town Board
11/13/07	Meeting with WATAVA rep. R. McConnell
12/07	Meeting with Ho-Chunk tribal representatives
2008	Black River State Forest Public & Government-to-Government Contacts
2/06/08	Meeting with Jackson Co. Wildlife Fund
3/01/08	Meeting with Chamber Exec for Black River Falls re. Preferred Alt.
3/17-04/30/08	Public comment period for Preferred Alternatives
4/01/08	Public meeting – “Preferred Alternatives and Options”, open house in Black River Falls
4/7/08	Attended BRSF Trail Foundation annual meeting
4/14-17/08	Sent 340 notifications and mailings plus 70 e-mails re. availability of Preferred Alt.
4/16/08	Meeting with County Forest Administrator J. Zahasky and Assistant J. Schweitzer
4/19/08	Partnered with Friends of Black River for Earth Day event
4/23/08	Meeting with G. Blackdeer, head of Ho-Chunk Nation DNR
4/23/08	Meeting with B. Quackenbush of Ho-Chunk re. Cultural Heritage resources
5/13/08	Presentation to the Jackson County Forestry and Parks committee re. trails proposals
9/18/08	Meeting with partners on ATV trail issues: WATVA, Jackson County Forestry and Parks, Clark County Forest (recreation), Army Corp of Engineers, DNR Water Regulations.



# APPENDICES

## APPENDIX A. BLACK RIVER STATE FOREST MASTER PLAN DESIGNATION PROCESS FOR STATE NATURAL AREAS

Generally, natural areas are tracts of land or water harboring natural features that have escaped most human disturbance and that represent the diversity of Wisconsin's native landscape. They contain outstanding examples of native biotic communities and are often the last refuges in the state for rare and endangered plant and animal species. State Natural Areas (SNAs) may also contain exceptional geological or archaeological features. The finest of the state's natural areas are formally designated as State Natural Areas.

The Wisconsin State Natural Areas Program oversees the establishment of SNAs and is advised by the Natural Areas Preservation Council. The stated goal of the program is to locate, establish, and preserve a system of SNAs that as nearly as possible represents the wealth and variety of Wisconsin's native landscape for education, research, and to secure the long-term protection of Wisconsin's biological diversity for future generations. SNAs are unique in state government's land protection efforts because they can serve as stand alone properties or they can be designated on other properties, such as a state forest. By designating SNAs within the boundary of the Black River State Forest, two different, legislatively mandated Department goals are being accomplished. This arrangement makes abundant fiscal sense because the state does not have to seek out willing sellers of private lands to meet the goals of multiple Department programs. This avoids duplicating appraisal and negotiation work and provides dual use of land that is already in public ownership.

The process to establish a SNA begins with the evaluation of a site identified through field inventories conducted by DNR ecologists, including the Biotic Inventory and Regional Analysis. Assessments take into account a site's overall quality and diversity, extent of past disturbance, long-term viability, context within the greater landscape, and rarity of features on local and global scales. Sites are considered for potential SNA designation in one or more of the following categories:

- Outstanding natural community
- Critical habitat for rare species
- Ecological reference (benchmark) area
- Significant geological or archaeological feature
- Exceptional site for natural area research and education

### Designation Process of SNAs

#### Step 1: Assessments

Biotic Inventory and  
SNA GAP analysis

#### Step 2: Preferred Alternative

The highest rated biotic sites and those  
with potential for filling gaps.

#### Step 3: Proposed Master Plan

Native community sites  
Forest Production Area

**Step 1:** Results from both the SNA GAP analysis and the Biotic Inventory, which were conducted on the BRSF within the last few years, were used to decide which areas would be SNA opportunity areas.

## STATE NATURAL AREA PROCESS

The data gathered via the Biotic Inventory identifies and evaluates the natural communities, significant plant and animal populations, and selected aquatic features and their associated biotic communities. This report emphasized important protection, management, and restoration opportunities, focusing on both unique and representative natural features of the BRSF property and surrounding landscape.

The SNA GAP analysis looks at representation for each primary natural community in each Ecological Landscape and determines if an adequate number of ecological reference areas are in place to capture the variation across the landscape.

**Step 2:** Using both the Biotic Inventory and SNA GAP analysis, the BRSF Preferred Alternative took sites ranked high and proposed native community management areas.

**Step 3:** After public review of the preferred alternative, these opportunity areas were then designated Native Community Management Areas. After the management goals were developed, the team reassessed the boundaries to assure that each forest stand was in the correct management area. Experts worked together to ensure that these sites were also given consideration as potential State Natural Areas.

Once approved by the Natural Resources Board, sites are formally “designated” as SNAs and become part of the Wisconsin State Natural Areas system. Designation confers a significant level of recognition of these sites’ natural values through state statutes, administrative rules, and guidelines.

### Impact to Master Plan Process

The process for selecting and designating SNAs is determined by cooperative efforts between two programs within the DNR: The Division of Forestry and the Bureau of Endangered Resources. The master planning process for state forests requires that the goals set by the Division of Forestry be considered before the Bureau of Endangered Resources submits candidate sites for SNA designation. This is done so that all sites are evaluated for timber production, which is outlined as a Division of Forestry priority. As a result, SNAs are considered overlays to Land Management Areas. In this way, the same piece of land can achieve the goals of two

different Department programs. Management activities for each proposed SNA reflect the general management prescriptions proposed for the area in which the SNA is located. For example, a SNA located within an area managed for white pine will follow the objectives for that land management area, rather than a separate SNA management plan. The exact same timber management would occur with or without SNA designation.

### Land Management Impact by Native Community Management Areas and Designation of SNAs

Native community management areas emphasize aspects of the ecosystem that provide the full range of forest types and age classes as promoted by the property goals. Areas are designated to manage for old growth characteristics, large areas of un-fragmented forest, and to protect and enhance water resources.

### SNA Management Activities

State Natural Areas are not exclusively passive management. Between 2003 and 2007, over 200 SNAs all over Wisconsin have had some type of active management. Examples of management activities include exotic species removal, burning and fuel reduction, brushing, trail development, ditch filling, and planting. Timber harvesting is not a primary focus of a SNA, but it is often necessary to achieve the desired ecological goals of a specific habitat. During the same five years, 29 commercial timber operations were conducted on SNAs to achieve the ecological goals of the site. Regardless of any designation, wildfires on state forests would be actively suppressed, safety measures would occur in developed areas, and insect and disease outbreaks would be considered for control.

### Recreational Impacts

Impacts would be minimal because the recreation opportunities for any given area were determined before consideration as a SNA. State Natural Areas are not appropriate for intensive recreation and such areas were automatically ruled out as potential sites during the development of the preferred alternative. However, SNAs can accommodate low-impact activities such as hiking, bird watching, and nature study. Examples of existing facilities within proposed SNA sites include hiking and cross-country ski trails, and boat landings and ramps.

### Benefits for a Partnership between State Forests and the State Natural Areas Program

The SNA program has standardized methods for conducting long-term monitoring of ecosystems and also has a network with a broad range of researchers, from aquatic biologists and botanists to zoologists that can be encouraged to conduct research on the state forest to enhance our understanding of the BRSF ecosystem. The experts in the Division of Forestry have experience in monitoring the trees and other plants, while SNA ecologists have expertise in monitoring terrestrial invertebrates, fungi and lichens, ground layer plants, mammals, reptiles and amphibians, and birds. Together an exceptional collaborative monitoring program could be developed.

- The SNA program can bring a broad range of educators together to assist in understanding and interpreting the ecology of the BRSF.
- The SNA program can lend its expertise to help create ecological interpretive signs and trail guides for better understanding of the full range of biological diversity on the BRSF.
- The SNA Program can assist in conducting land management activities such as invasive exotic species control, brushing and conducting prescribed burns.
- The Division of Forestry would not lose any of its management or decision-making authority, but gain the ability to provide a broader range of opportunities that would help fill its mission by collaborating with the SNA Program.
- An outside forest certification audit of the State Forest Program concluded that cooperation between the Division of Forestry and the State Natural Areas Program was commendable. This cooperation should continue to maintain such a high rating by future auditors.
- With a joint consideration, the same piece of land can achieve the goals of two different programs. If there were a lack of teamwork, the SNA Program would still pursue sites to fulfill its goals. Such a venture could duplicate an additional 4,278 acres of land with an approximate cost of \$10.5 million or more to the state of Wisconsin. Cooperation makes abundant fiscal sense.



## ENDANGERED OR THREATENED SPECIES AND SPECIES OF SPECIAL CONCERN

### APPENDIX B. ENDANGERED OR THREATENED SPECIES AND SPECIES OF SPECIAL CONCERN

The table below lists animals on the Black River State Forest which are endangered, threatened or of special concern, based on the Natural Heritage Inventory (NHI) database. The listing includes both state and federal designations. The aim of a "Special Concern" designation is to focus attention on certain species before they become threatened or endangered. Species of Greatest Conservation Need (SGCN) are also indicated.

Scientific Name	Common Name	State Status	Federal Status	SGCN
<i>Agabus bicolor</i>	A Predaceous Diving Beetle	SC/N		x
<i>Alasmodonta marginata</i>	Elktoe	SC/H		
<i>Ammodramus leconteii</i>	Le Conte's Sparrow	SC/M		x
<i>Anguilla rostrata</i>	American Eel	SC/N		x
<i>Apalone mutica</i>	Midland Smooth Softshell Turtle	SC/H		x
<i>Arphia conspersa</i>	Speckled Rangeland Grasshopper	SC/N		x
<i>Atrytonopsis hianna</i>	Dusted Skipper	SC/N		
<i>Banksiola dossuaria</i>	A Giant Casemaker Caddisfly	SC/N		x
<i>Botaurus lentiginosus</i>	American Bittern	SC/M		x
<i>Buteo lineatus</i>	Red-shouldered Hawk	THR		x
<i>Callophrys henrici</i>	Henry's Elfin	SC/N		
<i>Callophrys irus</i>	Frosted Elfin	THR		x
<i>Canis lupus</i>	Gray Wolf (aka Timber Wolf)	SC/FL	LE	x
<i>Chlosyne gorgone</i>	Gorgone Checker Spot	SC/N		
<i>Chromagrion conditum</i>	Aurora Damselfly	SC/N		
<i>Cicindela patruela huberi</i>	A Tiger Beetle	SC/N		x
<i>Clemmys insculpta</i>	Wood Turtle	THR		x
<i>Cyclonaias tuberculata</i>	Purple Wartyback	END		x
<i>Cymbiodyta acuminata</i>	A Water Scavenger Beetle	SC/N		x
<i>Dendroica cerulea</i>	Cerulean Warbler	THR		x
<i>Dendroica kirtlandii</i>	Kirtland's Warbler	SC/FL	LE	x
<i>Diadophis punctatus edwardsii</i>	Northern Ringneck Snake	SC/H		
<i>Dichromorpha viridis</i>	Short-winged Grasshopper	SC/N		x
<i>Empidonax virescens</i>	Acadian Flycatcher	THR		x
<i>Emydoidea blandingii</i>	Blanding's Turtle	THR		x
<i>Erynnis martialis</i>	Mottled Dusky Wing	SC/N		x
<i>Erynnis persius</i>	Persius Dusky Wing	SC/N		x
<i>Etheostoma clarum</i>	Western Sand Darter	SC/N		x
<i>Euphyes bimacula</i>	Two-spotted Skipper	SC/N		

# ENDANGERED OR THREATENED SPECIES AND SPECIES OF SPECIAL CONCERN

Scientific Name	Common Name	State Status	Federal Status	SGCN
<i>Haliaeetus leucocephalus</i>	Bald Eagle	SC/P		x
<i>Hemidactylium scutatum</i>	Four-toed Salamander	SC/H		x
<i>Hesperia leonardus</i>	Leonard's Skipper	SC/N		
<i>Hydroporus badiellus</i>	A Predaceous Diving Beetle	SC/N		
<i>Ilybius discedens</i>	A Predaceous Diving Beetle	SC/N		
<i>Laccobius reflexipennis</i>	A Predaceous Diving Beetle	SC/N		x
<i>Limotettix pseudosphagnetus</i>	A Leafhopper	SC/N		x
<i>Lycaeides melissa samuelis</i>	Karner Blue Butterfly	SC/FL	LE	x
<i>Melanoplus fasciatus</i>	Huckleberry Spur-throat Grasshopper	SC/N		x
<i>Melanoplus stonei</i>	Stone's Locust	SC/N		x
<i>Moxostoma carinatum</i>	River Redhorse	THR		x
<i>Neurocordulia molesta</i>	Smoky Shadowfly	SC/N		
<i>Ochrotrichia riesi</i>	A Purse Casmaker Caddisfly	SC/N		x
<i>Ophiogomphus smithi</i>	Sand Snaketail	SC/N		x
<i>Oporornis formosus</i>	Kentucky Warbler	THR		x
<i>Orphulella pelidna</i>	Spotted-winged Grasshopper	SC/N		x
<i>Paradamoetas fontana</i>	A Jumping Spider	SC/N		x
<i>Percina evides</i>	Gilt Darter	THR		x
<i>Poanes massasoit</i>	Mulberry Wing	SC/N		
<i>Polyamia dilata</i>	Prairie Leafhopper	THR		x
<i>Protonotaria citrea</i>	Prothonotary Warbler	SC/M		x
<i>Psinidia fenestralis</i>	Sand Locust	SC/N		x
<i>Schinia indiana</i>	Phlox Moth	END		x
<i>Seiurus motacilla</i>	Louisiana Waterthrush	SC/M		x
<i>Sistrurus catenatus</i>	Eastern Massasauga Rattlesnake	END	C	x
<i>Somatochlora incurvata</i>	Warpaint Emerald	END		x
<i>Somatochlora tenebrosa</i>	Clamp-tipped Emerald	SC/N		x
<i>Sorex arcticus</i>	Arctic Shrew	SC/N		
<i>Sorex hoyi</i>	Pygmy Shrew	SC/N		
<i>Sorex palustris</i>	Water Shrew	SC/N		x
<i>Soyedina vallicularia</i>	A Nemourid Broad-backed Stonefly	SC/N		x
<i>Sympetrum danae</i>	Black Meadowhawk	SC/N		
<i>Trachyrhachys kiowa</i>	Ash-brown Grasshopper	SC/N		x
<i>Tritogonia verrucosa</i>	Buckhorn	THR		x
<i>Tympanuchus phasianellus</i>	Sharp-tailed Grouse	SC/M		x
<i>Williamsonia lintneri</i>	Ringed Boghaunter	SC/N		x

## Key:

### State Status

END endangered

THR threatened

SC special concern

SC/P fully protected

SC/N no laws regulating use, possession, or harvesting

SC/H take regulated by establishment of open closed seasons

SC/FL federally protected as endangered or threatened, but not so designated by WDNR

SC/M fully protected by federal and state laws under the Migratory Bird Act.

### Federal Status

LE listed endangered

C candidate for future listing

## ENDANGERED OR THREATENED SPECIES AND SPECIES OF SPECIAL CONCERN

### Plants

The table below lists plants on the Black River State Forest which are endangered, threatened or of special concern, based on the Natural Heritage Inventory (NHI) database.

Scientific Name	Common Name	State Status
<i>Asclepias ovalifolia</i>	Dwarf Milkweed	THR
<i>Bartonia paniculata</i>	Twining Screwstem	SC
<i>Bartonia virginica</i>	Yellow Screwstem	SC
<i>Callitriche heterophylla</i>	Large Water-starwort	THR
<i>Carex assiniboinensis</i>	Assiniboine Sedge	SC
<i>Carex cumulata</i>	Clustered Sedge	SC
<i>Carex folliculata</i>	Long Sedge	SC
<i>Carex straminea</i>	Straw Sedge	SC
<i>Diarrhena obovata</i>	Beak Grass	END
<i>Epilobium palustre</i>	Marsh Willow-herb	SC
<i>Huperzia porophila</i>	Rock Clubmoss	SC
<i>Juncus marginatus</i>	Grassleaf Rush	SC
<i>Myriophyllum farwellii</i>	Farwell's Water-milfoil	SC
<i>Oryzopsis canadensis</i>	Canada Mountain-ricegrass	SC
<i>Platanthera hookeri</i>	Hooker Orchis	SC
<i>Poa paludigena</i>	Bog Bluegrass	THR
<i>Polygala cruciata</i>	Crossleaf Milkwort	SC
<i>Potamogeton diversifolius</i>	Water-thread Pondweed	SC
<i>Rhexia virginica</i>	Virginia Meadow-beauty	SC
<i>Scirpus georgianus</i>	Georgia Bulrush	SC
<i>Scleria triglomerata</i>	Whip Nutrush	SC
<i>Solidago sciaphila</i>	Shadowy Goldenrod	SC
<i>Talinum rugospermum</i>	Prairie Fame-flower	SC
<i>Thelypteris simulata</i>	Bog Fern	SC
<i>Utricularia geminiscapa</i>	Hidden-fruited Bladderwort	SC
<i>Viola fimbriatula</i>	Sand Violet	END

### Key:

#### State Status

END endangered

THR threatened

SC special concern

**ENDANGERED OR THREATENED SPECIES AND SPECIES OF SPECIAL CONCERN**

# WILDLIFE SPECIES OF GREATEST CONSERVATION NEED

## APPENDIX C. WILDLIFE SPECIES OF GREATEST CONSERVATION NEED

The following tables list vertebrate Species of Greatest Conservation Need (SGCN) associated with natural community types that are present on the Black River State Forest. Only SGCN with a high or moderate probability of occurring in the Central Sand Plains Ecological Landscape are shown. Numbers indicate the degree to which each species is associated with a particular habitat type (3=significant association, 2=moderate association, and 1=low association). Species-community combinations assigned either "3" or "2" in the table are also Ecological Priorities, as defined by the Wisconsin Wildlife Action Plan. See [dnr.wi.gov/org/land/er/WWAP/](http://dnr.wi.gov/org/land/er/WWAP/) for more information.

### MAJOR\* OPPORTUNITIES TO SUSTAIN THE NATURAL COMMUNITIES EXIST IN THE CENTRAL SAND PLAINS

	Alder Thicket	Central Sands Pine - Oak Forest	Dry Cliff	Floodplain Forest	Impoundments/Reservoirs	Northern Sedge Meadow	Northern Wet Forest	Oak Barrens	Open Bog	Pine Barrens	Sand Prairie	Shrub Carr	Southern Dry-mesic Forest	Surrogate Grasslands	White Pine - Red Maple Swamp
Species Name	Species that are Significantly Associated with the Central Sand Plains Landscape														
American Bittern	1					3			3			1		1	
American Woodcock	3	1		1		1	1	1	1	1		3		1	1
Bald Eagle				1	3										
Black Tern					2	2									
Black-billed Cuckoo	3			2		1	1	2		2		3			
Blanding's Turtle	2			2	3	2		3		3	3	2	2		
Blue-winged Teal				2	2	2					1			2	
Blue-winged Warbler		1		2				1				2	2		1
Bobolink						3			2					3	
Brown Thrasher								3		3	3			2	
Dickcissel								1						3	
Eastern Meadowlark											2			3	
Field Sparrow								2		2	3			2	
Four-toed Salamander	3			3		2	2		3			3			
Franklin's Ground Squirrel								3		3	3			2	
Golden-winged Warbler	3	1					2		2	1		3	1		1
Grasshopper Sparrow								2		1	3			3	
Gray Wolf (aka Timber Wolf)	3	3		2		1	3	2	2	2		2	2		1
Greater Prairie-Chicken						2					1	1		3	
Henslow's Sparrow						1			2					3	
Lake Sturgeon					3										
Least Flycatcher		1		2								1	1		1
Lesser Scaup					2										
Mudpuppy					3										
Northern Harrier	1					3		2	2	2	1	1		3	
Osprey					3										

## WILDLIFE SPECIES OF GREATEST CONSERVATION NEED

## MAJOR\* OPPORTUNITIES TO SUSTAIN THE NATURAL COMMUNITIES EXIST IN THE CENTRAL SAND PLAINS

	Alder Thicket	Central Sands Pine - Oak Forest	Dry Cliff	Floodplain Forest	Impoundments/Reservoirs	Northern Sedge Meadow	Northern Wet Forest	Oak Barrens	Open Bog	Pine Barrens	Sand Prairie	Shrub Carr	Southern Dry-mesic Forest	Surrogate Grasslands	White Pine - Red Maple Swamp
Species Name	Species that are Significantly Associated with the Central Sand Plains Landscape (Continued)														
Prothonotary Warbler				3											
Red-headed Woodpecker		2		2				2		1			2		
Red-shouldered Hawk				3									2		2
Short-billed Dowitcher					2										
Short-eared Owl						2			1		1	2		3	
Trumpeter Swan					2	1			1						
Upland Sandpiper						1		2		2	2			3	
Veery	3			2			2					3	2		3
Vesper Sparrow								3		3	3			1	
Western Meadowlark								2		1	2			3	
Western Slender Glass Lizard								3		3	3				
Whip-poor-will		3		1				2		2			3		
Whooping Crane						2			2						
Willow Flycatcher				1							1	3		2	
Wood Thrush		1		2			1						3		1
Wood Turtle	3			3		2	2	3		3	3	3			
Yellow-billed Cuckoo				3								2	2		1
	Species that are Moderately Associated with the Central Sand Plains Landscape														
American Golden Plover					2	1								2	
Bullsnake		2	3					3		3	3		2		
Canada Warbler	2	1					2					1			2
Canvasback					2										
Cerulean Warbler				3									3		
Connecticut Warbler							2		2	2					
Dunlin					2										
Eastern Massasauga Rattlesnake	3			3				3	3	3	3	3			
Eastern Red Bat	2	2		2	1	2	2	2	2	1		2	2		2
Hoary Bat	2	2		2	1	2	2		2			2	1		2
Hudsonian Godwit					1										
King Rail						1									
Lark Sparrow								3		2	3				
Le Conte's Sparrow						3			2					3	
Louisiana Waterthrush													3		

## WILDLIFE SPECIES OF GREATEST CONSERVATION NEED

## MAJOR\* OPPORTUNITIES TO SUSTAIN THE NATURAL COMMUNITIES EXIST IN THE CENTRAL SAND PLAINS

	Alder Thicket	Central Sands Pine - Oak Forest	Dry Cliff	Floodplain Forest	Impoundments/Reservoirs	Northern Sedge Meadow	Northern Wet Forest	Oak Barrens	Open Bog	Pine Barrens	Sand Prairie	Shrub Carr	Southern Dry-mesic Forest	Surrogate Grasslands	White Pine - Red Maple Swamp
Species Name	Species that are Moderately Associated with the Central Sand Plains Landscape (Continued)														
Midland Smooth Softshell Turtle															
Northern Goshawk															2
Northern Long-eared Bat	2	2		2	1	2	1	2	2			2	2		2
Pickereel Frog	2			2	3	3	2		2			2			
Prairie Ringneck Snake		2						2			2		2		
Prairie Vole								2		1	3			2	
Red Crossbill		1					1			2					
Red-necked Grebe															
River Redhorse															
Rusty Blackbird	2			3					2			2			1
Sharp-tailed Grouse						2		3	1	3		1		2	
Silver-haired Bat	2	2		2	1	2	2		2			2	1		2
Solitary Sandpiper	1			3		1			2			1			
Water Shrew	2			2	1	1	3		1			1			1
Western Sand Darter															
White-tailed Jackrabbit								1		1	3			2	
Wilson's Phalarope						3									
Yellow Rail						3			3						
Yellow-bellied Racer			2					2		2	3		2		

\*Major: A major opportunity for sustaining the natural community in the Ecological Landscape exists, either because many significant occurrences of the natural community have been recorded in the landscape or major restoration activities are likely to be successful maintaining the community's composition, structure, and ecological function over a longer period of time.

## WILDLIFE SPECIES OF GREATEST CONSERVATION NEED

## IMPORTANT\* OPPORTUNITIES MAY EXIST TO SUSTAIN THE NATURAL COMMUNITY IN THE CENTRAL SAND PLAINS

	Coastal Plain Marsh	Coldwater streams	Coolwater streams	Dry Prairie	Dry-mesic Prairie	Emergent Marsh	Moist Cliff	Northern Dry Forest	Northern Dry-mesic Forest	Northern Hardwood Swamp	Northern Mesic Forest	Southern Dry Forest	Southern Mesic Forest	Southern Sedge Meadow	Southern Tamarack Swamp (rich)	Submergent Marsh	Warmwater rivers	Warmwater streams
Species Name	Species that are Significantly Associated with the Central Sand Plains Landscape																	
American Bittern						3								2				
American Woodcock								1	1	2	2	1			2			
Bald Eagle																2	3	
Black Tern						3								1		2		
Black-billed Cuckoo								1	1	1	2				2			
Blanding's Turtle	2	2	2	3	2	3							2	2	2	3	2	2
Blue-winged Teal	1			1	2	3								2		2	1	
Blue-winged Warbler								1				2	2		2			
Bobolink					3									2				
Brown Thrasher				2	2			1										
Dickcissel				1	3													
Eastern Meadowlark				2	3									2				
Field Sparrow				3	2													
Four-toed Salamander		2	2			3	1			2	3		3	2	2			
Franklin's Ground Squirrel				1	3													
Golden-winged Warbler								2	2	2	2	1	1		1			
Grasshopper Sparrow				3	3													
Gray Wolf (aka Timber Wolf)								2	3	2	3	2	2		1			
Greater Prairie-Chicken				2	3									2				
Henslow's Sparrow					3									1				
Lake Sturgeon																	3	
Least Flycatcher								2	2	2	3	1	1					
Lesser Scaup						1										3	2	
Mudpuppy		2	1														3	
Northern Harrier				2	2	1								2				
Osprey																1	3	
Prothonotary Warbler																		
Red-headed Woodpecker								1	1			2						
Red-shouldered Hawk								1	2	1	2		2		1			
Short-billed Dowitcher						3										1		
Short-eared Owl				2	2	1								2				
Trumpeter Swan						3										3	1	
Upland Sandpiper				3	3									1				
Veery								1	2	3	2		2		1			

# WILDLIFE SPECIES OF GREATEST CONSERVATION NEED

## IMPORTANT\* OPPORTUNITIES MAY EXIST TO SUSTAIN THE NATURAL COMMUNITY IN THE CENTRAL SAND PLAINS

	Coastal Plain Marsh	Coldwater streams	Coolwater streams	Dry Prairie	Dry-mesic Prairie	Emergent Marsh	Moist Cliff	Northern Dry Forest	Northern Dry-mesic Forest	Northern Hardwood Swamp	Northern Mesic Forest	Southern Dry Forest	Southern Mesic Forest	Southern Sedge Meadow	Southern Tamarack Swamp (rich)	Submergent Marsh	Warmwater rivers	Warmwater streams
Species Name	Species that are Significantly Associated with the Central Sand Plains Landscape (Continued)																	
Vesper Sparrow				3	2													
Western Meadowlark				2	3													
Western Slender Glass Lizard				3	3													
Whip-poor-will								2	2		1	3	1					
Whooping Crane						3								2		3		
Willow Flycatcher				1	2									2	1			
Wood Thrush									1	1	2	2	3		1			
Wood Turtle		3	3	3	2					2	3		2	2		3	3	3
Yellow-billed Cuckoo											1	1	2		1			
	Species that are Moderately Associated with the Central Sand Plains Landscape																	
American Golden Plover					2	2								1				
Bullsnake				3	3							2	2					
Canada Warbler								1	2	3	2				1			
Canvasback						1										3	3	
Cerulean Warbler											1	1	2					
Connecticut Warbler								3	1									
Dunlin						2											2	
Eastern Massasauga Rattlesnake				3	3	3								3				
Eastern Red Bat	2	3	3			2		2	2	2	2	2	2	2	1	2	2	2
Hoary Bat	2	3	3			2		2	2	2	2	1	1	2	1	2	2	2
Hudsonian Godwit						3										1		
King Rail						3								2				
Lark Sparrow				2														
Le Conte's Sparrow																		
Louisiana Waterthrush		3	3										3					
Midland Smooth Softshell Turtle																	3	
Northern Goshawk								1	2	1	3							
Northern Long-eared Bat	2	3	3			2		2	2	2	2	2	2	2		2	2	2
Pickering Frog		3	3			3					2		2	3		3	3	3
Prairie Ringneck Snake				3	3							2						
Prairie Vole				3	3													
Red Crossbill								3	3		1							
Red-necked Grebe						3										2		

## WILDLIFE SPECIES OF GREATEST CONSERVATION NEED

## IMPORTANT\* OPPORTUNITIES MAY EXIST TO SUSTAIN THE NATURAL COMMUNITY IN THE CENTRAL SAND PLAINS

	Coastal Plain Marsh	Coldwater streams	Coolwater streams	Dry Prairie	Dry-mesic Prairie	Emergent Marsh	Moist Cliff	Northern Dry Forest	Northern Dry-mesic Forest	Northern Hardwood Swamp	Northern Mesic Forest	Southern Dry Forest	Southern Mesic Forest	Southern Sedge Meadow	Southern Tamarack Swamp (rich)	Submergent Marsh	Warmwater rivers	Warmwater streams
Species Name	Species that are Moderately Associated with the Central Sand Plains Landscape (Continued)																	
River Redhorse																	2	
Rusty Blackbird						2									2			
Sharp-tailed Grouse				2	2													
Silver-haired Bat	2	3	3			2		2	2	2	2	1	1	2	1	2	2	2
Solitary Sandpiper	2	2	2			3								1				2
Water Shrew		3	3							3	2		2		1		1	2
Western Sand Darter																	2	
White-tailed Jackrabbit				3	3													
Wilson's Phalarope						3								1		2		
Yellow Rail																		
Yellow-bellied Racer				3	2							2						

\*Important: Although the natural community does not occur extensively or commonly in the Ecological Landscape, one to several occurrences do occur and are important in sustaining the community in the state. In some cases, important opportunities may exist because the natural community may be restricted to just one or a few Ecological Landscapes within the state and there may be a lack of opportunities elsewhere.

## WILDLIFE SPECIES OF GREATEST CONSERVATION NEED

## NATURAL COMMUNITY IS PRESENT\* IN THE CENTRAL SAND PLAINS

	Bedrock Glade	Calcareous Fen	Cedar Glade	Emergent Marsh - Wild Rice	Hemlock Relict	Inland lakes	Mesic Prairie	Oak Woodland	Pine Relict	Wet Prairie	Wet-mesic Prairie
Species Name	Species that are Significantly Associated with the Central Sand Plains Landscape										
American Bittern				1						1	
American Woodcock		2								1	
Bald Eagle				1		3					
Black Tern				2		2					
Black-billed Cuckoo										1	
Blanding's Turtle			2	3		3	2	2		3	2
Blue-winged Teal				2		2	2			2	2
Blue-winged Warbler	2							2			
Bobolink		1					3			3	3
Brown Thrasher										1	
Dickcissel							3				1
Eastern Meadowlark		1					3			1	2
Field Sparrow			3				2				2
Four-toed Salamander											
Franklin's Ground Squirrel							2	2		1	2
Golden-winged Warbler											
Grasshopper Sparrow			1				1				
Gray Wolf (aka Timber Wolf)					1				1		
Greater Prairie-Chicken							3			2	3
Henslow's Sparrow							3			2	2
Lake Sturgeon						3					
Least Flycatcher								1			
Lesser Scaup				2		2					
Mudpuppy						3					
Northern Harrier		1		1			3			2	3
Osprey				1		3					
Prothonotary Warbler											
Red-headed Woodpecker								3			
Red-shouldered Hawk											
Short-billed Dowitcher											
Short-eared Owl							3			2	3
Trumpeter Swan				3		2					
Upland Sandpiper							2			2	2

## WILDLIFE SPECIES OF GREATEST CONSERVATION NEED

## NATURAL COMMUNITY IS PRESENT\* IN THE CENTRAL SAND PLAINS

	Bedrock Glade	Calcareous Fen	Cedar Glade	Emergent Marsh - Wild Rice	Hemlock Relict	Inland lakes	Mesic Prairie	Oak Woodland	Pine Relict	Wet Prairie	Wet-mesic Prairie
Species Name	Species that are Significantly Associated with the Central Sand Plains Landscape (Continued)										
Veery					2			1	2		
Vesper Sparrow											
Western Meadowlark							1			1	
Western Slender Glass Lizard											
Whip-poor-will	2				1			3	2		
Whooping Crane											
Willow Flycatcher		2					2			2	2
Wood Thrush								2			
Wood Turtle								2		2	
Yellow-billed Cuckoo								1			
	Species that are Moderately Associated with the Central Sand Plains Landscape										
American Golden Plover							2			2	2
Bullsnake	3		3				2	3	2		
Canada Warbler					2				2		
Canvasback				2		2					
Cerulean Warbler								2			
Connecticut Warbler											
Dunlin											
Eastern Massasauga Rattlesnake		3					3			3	3
Eastern Red Bat		2	1		2	2		2	2		
Hoary Bat		2	1		2	2		1	2		
Hudsonian Godwit											
King Rail											
Lark Sparrow			3								
Le Conte's Sparrow										2	2
Louisiana Waterthrush											
Midland Smooth Softshell Turtle											
Northern Goshawk											
Northern Long-eared Bat		2	1		2	2		2	1		
Pickerel Frog		2				2	2			3	3
Prairie Ringneck Snake	3		3					2			
Prairie Vole							2				
Red Crossbill					1				2		

## WILDLIFE SPECIES OF GREATEST CONSERVATION NEED

## NATURAL COMMUNITY IS PRESENT\* IN THE CENTRAL SAND PLAINS

	Bedrock Glade	Calcareous Fen	Cedar Glade	Emergent Marsh - Wild Rice	Hemlock Relict	Inland lakes	Mesic Prairie	Oak Woodland	Pine Relict	Wet Prairie	Wet-mesic Prairie
Species Name	Species that are Moderately Associated with the Central Sand Plains Landscape (Continued)										
Red-necked Grebe				1							
River Redhorse											
Rusty Blackbird		2									
Sharp-tailed Grouse							1			1	1
Silver-haired Bat		2	1		2	2		1			
Solitary Sandpiper											
Water Shrew						2					
Western Sand Darter											
White-tailed Jackrabbit							1				
Wilson's Phalarope										1	
Yellow Rail											
Yellow-bellied Racer			3								

\*Present: The natural community occurs in the Ecological Landscape, but better management opportunities appear to exist in other parts of the state.

## APPENDIX D. GLOSSARY OF TERMS

**Active Management:** These areas apply primarily in the forest production areas and use general forest management prescriptions. Activities are achieved through clearcutting, selective cutting, thinning, timber stand improvement, natural or forced regeneration, herbicide treatments, and/or prescribed burning. These activities would be consistent with standard silvicultural practices associated with the forest timber types found in the area and are generally scheduled in the property's reconnaissance (inventory). Each management area will have a goal and objective consistent with site capabilities and forest cover types. While species composition would remain relatively consistent during the life of the master plan, the age class distribution would change due to timber harvesting. Forest users should expect to see ongoing annual vegetation manipulation.

**Adaptive Management:** A dynamic approach to forest management in which the effects of treatments and decisions are continually monitored and used, along with research results, to modify management on a continuing basis to ensure that objectives are being met.

**Basal Area:** The basal area of a tree is usually defined as the cross-sectional area at breast height in square feet.

**Biological Diversity:** The variety and abundance of species, their genetic composition, and the communities, ecosystems and landscapes in which they occur. Biological diversity also refers to the variety of ecological structures, functions, and processes at any of these levels.

**Community Restoration:** The practice of community restoration recognizes that communities, species, structural features, microhabitats, and natural processes that are now diminished or absent from the present landscape have a valuable role to place in maintaining native ecosystems. Under some definitions, community restoration means moving the current composition and structure of a plant community to a composition and structure that more closely resembles that of the pre-settlement vegetation.

**DNR Silviculture and Forest Aesthetics Handbook:** Silviculture is the practice of controlling forest composition, structure, and growth to maintain and enhance the forest using a unified, systematic approach. The management recommendations are basic guidelines intended to encourage vigor within all developmental stages of a forest, whether managed in an even-age or uneven-age system. The practice of silviculture is an art and a science which recognizes the specific ecological capabilities and characteristics of the site for both short-term and long-

term impacts. Integrated resource management objectives, such as aesthetics, wildlife, endangered resources, biological diversity, timber production, and the protection of soil and water quality are part of this system.

**DNR Old Growth and Old Forests Handbook:** These management recommendations provide basic, adaptive guidelines based on research and general scientific and silvicultural knowledge of the species being managed. The recommendations are subject to purposeful, on-the-ground modification by the land manager. Old growth forests are rare in Wisconsin and are valued for many ecological, social, and economic purposes. Current forests will change with time, and can provide an opportunity to restore old growth forests at the stand level, and in some places at a landscape scale. The Department of Natural Resources formally recognized and encouraged the management of old growth forests in Wisconsin's Biodiversity as a Management Issue. Wisconsin's state land master planning process, formalized in Chapter NR 44, Wis. Adm. Code, includes old growth forest as a critical consideration.

**Driftless Area:** The unglaciated area of southwestern Wisconsin, southeastern Minnesota, and northeastern Iowa generally characteristic of a steep "ridge and coulee" topography.

**Extended Rotation Stands:** Stands that can be either even or uneven aged. They are managed well beyond the economic rotation to capture ecological benefits associated with mature forests. These stands are carried beyond their normal economic rotation age and are harvested before reaching pathological decline.

**Forest Cover Type:** A category of forest usually defined by its vegetation, particularly its dominant vegetation as based on percentage cover of trees.

**Forest Structure:** A category of forest usually defined by its vegetation, particularly its dominant vegetation as based on percentage cover of trees.

**Invasive Species:** These species have the ability to invade natural systems and proliferate, often dominating a community to the detriment and sometimes the exclusion of native species. Invasive species can alter natural ecological processes by reducing the interactions of many species to the interaction of only a few species.

## GLOSSARY OF TERMS

**Managed Old Forest:** Designated forests (relict, old growth, or old forests) where future active management is limited, and the primary management goal is the long-term development and maintenance of some old growth or old forest ecological attributes within environments where limited management practices and product extraction are allowed.

**Managed Old Growth:** The primary management goal is the long-term development and maintenance of old growth characteristics within environments where limited but active land management, including logging is allowed. Practices which could be considered include insect control, salvage logging, prescribed fire, and prescribed logging.

**Passive Management:** A management technique that means the goals of the native community management area are achieved primarily without any direct action. Nature is allowed to determine the composition and structure of the area. For example, patches of large woody debris and the accompanying root boles (tip-up mounds) that are characteristic of old growth structure are best achieved through natural processes. Passive management, however, does not mean a totally hands off approach. Some actions are required by law, such as wildfire suppression, consideration of actions when severe insect and disease outbreaks affect trees, and hazard management of trees along trails and roads. Other actions, such as removal of invasive exotic species, are necessary to maintain the ecological integrity of the site.

**State Natural Areas:** Tracts of land or water harboring natural features that have escaped most human disturbance and that represent the diversity of Wisconsin's native landscape. They contain outstanding examples of native biotic communities and are often the last refuges in the state for rare and endangered plant and animal species. They may also contain exceptional geological or archaeological features. The finest of the state's natural areas are formally designated as State Natural Areas.

**Sustainable Forestry:** The practice of managing dynamic forest ecosystems to provide ecological, economic, social, and cultural benefits for present and future generations.

**Type 1 Recreational Use Setting:** Objective of this setting is to provide a remote, wild area where the recreational user has opportunities to experience solitude, challenge, independence and self-reliance.

**Type 2 Recreational Use Setting:** Objective of this setting is to provide a remote or somewhat remote area with little development and a predominantly natural-appearing environment offering opportunities for solitude and primitive, non-motorized recreation.

**Type 3 Recreational Use Setting:** Objective of this setting is to provide readily accessible areas with modest recreational facilities offering opportunities at different times and places for a variety of dispersed recreational uses and experiences.

**Type 4 Recreational Use Setting:** Objective of this setting is to provide areas offering opportunities for intensive recreational use activities and expectations. Facilities, when present, may provide a relatively high level of user comfort, convenience and environmental protection.

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